



February 14, 2018

Planning Commission  
Genoa Township  
2911 Dorr Road  
Brighton, Michigan 48116

<b>Attention:</b>	Kelly Van Marter, AICP Planning Director and Assistant Township Manager
<b>Subject:</b>	Aldi Food Market – Site Plan Review #1
<b>Location:</b>	2260 E. Grand River Avenue - south side of Grand River, west of Chilson Road
<b>Zoning:</b>	GCD General Commercial District

Dear Commissioners:

At the Township’s request, we have reviewed the site plan (cover sheet dated 1/29/18) proposing an expansion of the existing Aldi Food Market at 2260 E. Grand River Avenue.

We have reviewed the proposal in accordance with the applicable provisions of the Genoa Township Zoning Ordinance.

**A. Summary**

1. The proposal includes parking spaces across a property line. While this area is covered with an easement for such, it does not comply with the setback requirements for parking lots.
2. The Planning Commission has approval authority over the building elevations, including materials and colors.
3. The amount of parking proposed (125% of the minimum) exceeds the maximum allowed by Ordinance (120%). The applicant must either remove at least 4 spaces or demonstrate to the Planning Commission why the additional spaces are necessary.
4. Items #1 and #3 could be mitigated by the removal of the 6 spaces described above.
5. The Commission may wish to require looped striping for the parking spaces.
6. The greenbelt and parking lot landscaping include evergreen and ornamental trees, whereas the Ordinance requires canopy trees (2.5” deciduous).

**B. Proposal**

The applicant requests site plan review and approval for a 2,254 square foot addition to the existing 16,657 square foot grocery store.

Retail establishments with up to 30,000 square feet of gross floor area are permitted by right in the GCD. As such, the project requires site plan review/approval given that the size of the expansion (approximately 13%) exceeds the threshold for a “minor” deviation from an approved plan.



*Aerial view of site and surroundings (looking north)*

**C. Site Plan Review**

**1. Dimensional Requirements.** The proposal has been reviewed for compliance with the dimensional standards of the GCD, as follows:

District	Lot Size		Minimum Setbacks (feet)				Max. Height	Lot Coverage
	Lot Area (acres)	Width (feet)	Front Yard	Side Yard	Rear Yard	Parking		
GCD	1	150	70	15	50	20 front 10 side/rear	35' 2 stories	35% building 75% impervious
Proposal	2.66	358	91.2	15.4 (W) 135 (E)	57.6	4-29 front 10 side/rear*	24.5' 1 story	16.3% building 61.8% impervious

\* The majority of the existing and proposed parking meets the side/rear setback standard; however, there are 6 spaces proposed at the rear of the site that cross over the property line. This area is noted as being covered by an easement for “parking, landscaping and public utilities,” but, the proposed design results in a non-compliant setback.

With the exception of the east side yard, the building and parking setbacks noted are existing conditions. The reduced parking front setback was allowed as part of the original development in 2008 via variance from the ZBA.

**2. Building Materials and Design.** The proposed elevations, including colors and materials, are subject to review and approval by the Planning Commission.

Building materials include brick and a CMU base to match the existing building. New materials include decorative wood panels and metal architectural panels (replacing glass) on the upper level of the store entrance.

In our opinion, the proposed building provides a complementary mix of materials that match the existing building, while also introducing new materials to modernize the overall design.

**Aldi Food Market**

Site Plan Review #1

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- 3. Parking.** Per Section 14.04, 76 parking spaces are required, while 95 are proposed, including the 5 required barrier free spaces.

The amount of parking proposed slightly exceeds that allowed by Ordinance. More specifically, Section 14.02.06 requires Planning Commission approval for parking that exceeds 120% of the minimum requirement.

The proposal is 125% of the minimum requirement. As such, the applicant must either explain to the Commission why the additional spaces are necessary or reduce the amount parking proposed to 91 spaces (or less). As an alternative, the applicant may wish to remove the 6 new spaces that cross the property line (as noted under item #1 above).

The parking spaces and drive aisles meet or exceed the dimensional standards of Section 14.06; however, neither the existing nor proposed parking spaces provide the looped striping required. The Commission may wish to require this as part of the project.

- 4. Pedestrian Circulation.** There is an existing public sidewalk along Grand River, as well as existing walks along the north and east sides of the building. The proposal includes widening of the sidewalk along the east side of the building and crosswalk striping across the parking lot connecting the public and private walks.
- 5. Vehicular Circulation.** The site has direct access to Grand River via a restricted turning movement drive, as well as indirectly by a shared access easement with the County complex to the east. No changes are proposed to the existing circulation patterns.
- 6. Loading.** The development has an existing truck well at the rear of the building for deliveries. The size, design and location are all in accordance with current standards and no changes are proposed.
- 7. Waste Receptacle and Enclosure.** There is an existing waste receptacle and enclosure within the truck well at the rear of the building. Our original review of the site plan (2008) indicated that the receptacle/enclosure complied with the standards of Section 12.03 and no changes are currently proposed.
- 8. Landscaping.** We reviewed the landscape plan for compliance with the standards of Section 12.02, as noted in the following table:

Location	Requirements	Proposed	Comments
Greenbelt	20' width 9 canopy trees 2' tall hedgerow	0-29' width (existing) 4 existing trees 5 ornamental trees (proposed)	The Ordinance requires 2.5" trees within the greenbelt (as opposed the 2" ornamentals proposed)
Buffer Zone C (E)	10' width 23 canopy trees OR 23 evergreen trees OR 90 shrubs	10' width 7 existing trees 3 canopy trees (proposed) 6 evergreen trees (proposed) 28 shrubs (proposed)	Requirements met; however, 5 of the 6 evergreen trees are within the easement on the adjacent property
Buffer Zone C (W)	10' width 16 canopy trees OR 16 evergreen trees OR 64 shrubs	10' width 8 existing trees 2 evergreen trees (proposed) 24 existing shrubs	Requirements met
Parking lot	950 SF landscaped area 10 canopy trees	1,458 SF landscaped area 2 existing trees 5 canopy trees (proposed) 2 evergreen trees 1 ornamental tree	Total tree plantings are met; however, the Ordinance specifies 2.5" deciduous (as opposed to the evergreen and ornamental trees proposed)
Detention pond	8 trees (deciduous or evergreen) 80 shrubs	10 trees (existing) 73 shrubs (existing) 7 shrubs (proposed)	Requirements met

- 9. Exterior Lighting.** The submittal includes a lighting plan (Sheet LT1), which includes 9 light poles throughout the parking lot, as well as 24 wall mounted/under canopy fixtures.

The proposed lighting plan, including pole heights, fixture details and light intensities, complies with current Township standards.

- 10. Signs.** The existing monument sign is to remain, though replacement of the existing sign cabinet is proposed. This will not alter the sign height or area, both of which comply with current standards.

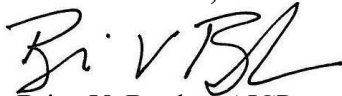
The building elevation drawings show the two existing wall signs in the northeast corner of the building. As a side note, the 2<sup>nd</sup> wall sign was allowed by the Planning Commission as part of the 2008 approval.

- 11. Impact Assessment.** The submittal includes an amended Impact Assessment (January 25, 2018). In summary, the Assessment notes that the project is not anticipated to adversely impact natural features, public services/utilities, surrounding land uses or traffic.

Should you have any questions concerning this matter, please do not hesitate to contact our office. I can be reached by phone at (248) 586-0505, or via e-mail at [borden@lsplanning.com](mailto:borden@lsplanning.com).

Respectfully,

**LSL PLANNING, A SAFE BUILT COMPANY**



Brian V. Borden, AICP  
Planning Manager



February 13, 2018

Ms. Kelly Van Marter  
Genoa Township  
2911 Dorr Road  
Brighton, MI 48116

**Re: Aldi Expansion Site Plan Review #1**

Dear Ms. Van Marter:

Tetra Tech conducted a site plan review of the Aldi expansion plans submitted by Desine, Inc. The submission included site plans dated January 29, 2018, an impact assessment, and site plan review application. We offer the following comments:

**SUMMARY**

1. Heavy duty bituminous section
2. Stormwater calculations

**SITE PLAN**

1. The delivery truck driveway and turnaround is specified as heavy duty bituminous pavement. The Township standards requires an industrial parking lot to be 1.5-inch wearing course followed by a 4-inch leveling course. The proposed plans have a 1.5-inch wearing course followed by a 2.5-inch leveling course. The proposed leveling course should be increased to 4 inches to meet heavy truck load requirements.
2. The proposed storm runoff area and coefficients do not differ greatly from the original design. However, utilizing the surveyed elevations and new calculations, it appears that the existing detention basin is not adequate for the proposed stormwater flows. Genoa Township stormwater management standards require on-site detention basins to meet the requirements of the Livingston County Drain Commissioner's "A Simple Method of Detention Design" for a 100-year frequency storm. The following comments identify where the current stormwater detention basin does not meet the Drain Commissioner's requirements:
  - o A detention basin shall have a minimum of 1-foot free board above the 100-year storage level. The proposed 100-year elevation is 922.7 while the site plan shows the highest elevation of the detention basin is 923.
  - o The conveyance pipes for stormwater shall be free flowing and self-draining, therefore, no portion of a storm drainage system shall be permanently submerged. Because the required 100-year storage volume, 16,651 cubic feet, is not able to be stored in the existing detention basin the petitioner has proposed utilizing conveyance storage to meet this requirement. Storage of stormwater in conveyance pipes is not recommended and the existing detention basin should be enlarged to account for the required 100-year storage volume.

**Tetra Tech**

401 South Washington Square, Suite 100, Lansing, MI 48933  
Tel 517.316.3930 Fax 517.484.8140 [www.tetrattech.com](http://www.tetrattech.com)

**Ms. Kelly Van Marter**  
**Re: Aldi Expansion Site Plan Review #1**  
**February 13, 2018**  
**Page 2**

- The petitioner has not accurately calculated the ‘bankfull’ flood volume. It should be calculated using “ $8160 \times A \times C$ ”. This will affect the elevation and size of the outlet holes in the discharge standpipe. Due to the detention basin requiring expansion, the discharge standpipe elevations and hole sizes will need to be recalculated and likely revised in the field. In addition, a standpipe detail showing the discharge holes will need to be added to the plans.

The petitioner should address the above comments and resubmit the plans for review. Because there are no changes to the existing public water main or sanitary sewer, these plans will not require review through MHOOG Construction Plan Review process. It should be noted, however, that the two most southerly sanitary sewers on the plans are two 12-inch force mains. Care should be taken when constructing the new parking stalls over these force mains.

Sincerely,



Gary J. Markstrom, P.E.  
Unit Vice President



Marguerite K. Davenport  
Project Engineer

copy: Christopher A. Grzenkowicz, P.E., DESINE, Inc.



# BRIGHTON AREA FIRE AUTHORITY

615 W. Grand River Ave.  
Brighton, MI 48116  
o: 810-229-6640 f: 810-229-1619

February 14, 2018

Kelly VanMarter  
Genoa Township  
2911 Dorr Road  
Brighton, MI 48116

RE: Aldi expansion  
2260 E. Grand River  
Genoa Twp., MI

Dear Kelly:

The Brighton Area Fire Authority has reviewed the above mentioned site plan. The plans were received for review on February 1, 2018 and the drawings are dated January 29, 2018. The project is based on an existing 16,657 sq.ft. Mercantile occupancy that will undergo site alteration to accommodate a new 2,254 sq.ft. addition. The plan review is based on the requirements of the International Fire Code (IFC) 2018 edition.

1. The existing site condition for the FDC location is not identified, however a relocation is proposed. The FDC shall be located on the Grand River side of the structure within 100' of the fire hydrant.

**IFC 912.2**

2. A new fire hydrant must be added to the rear of the parking lot near the new parking areas. Preferable location would be along the southern curb east of the new parking areas. This will provide for additional fire flow and proper spacing.

3. The building addition shall be provided with automatic sprinkler protection in accordance with NFPA 13, *Standard for the Installation of Automatic Sprinkler Systems*.

**IFC 903**

4. The building address shall be a **minimum of 6"** high letters of contrasting colors and be clearly visible from the street. The location and size shall be verified prior to installation.

**IFC 505.1**

5. The access road along the east and south sides of the structure shall be a minimum of 26' wide. With a width of 26' wide, the building side of the drive along the east shall be marked as a fire lane as well as along the southern drive along the rear. Include the location of the proposed fire lane signage and include a detail of the fire lane sign in the submittal. Access roads to site shall be provided and maintained during construction.

**IFC D103.1**  
**IFC D103.6**

6. Provide an emergency vehicle circulation plan for the site entering from the Grand River Entrances and the County Office Tie-in. Access throughout the site and access drives shall provide emergency vehicles with a turning radius of 30' inside and 50' outside.

**IFC D103.3**



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Aldi Expansion

2260 E. Grand River

Site Plan Review

7. The location of the Knox Box shall be indicated on future submittals. The existing Knox box will likely need to be relocated to be adjacent to the new main entrance of the structure. Coordinate with the fire authority for placement and follow manufacturers instruction regarding installation.

**IFC 506.1**

Additional comments will be given during the building plan review process (specific to the building plans and occupancy). The applicant is reminded that the fire authority must review the fire protection systems submittals (sprinkler & alarm) prior to permit issuance by the Building Department and that the authority will also review the building plans for life safety requirements in conjunction with the Building Department.

If you have any questions about the comments on this plan review please contact me at 810-229-6640.

Cordially,

A handwritten signature in black ink, appearing to read "R. Boisvert".

Rick Boisvert, CFPS  
Fire Marshal





February 22, 2018

**GENOA TOWNSHIP**

**FEB 23 2018**

**RECEIVED**

Ms. Kelly VanMarter  
Genoa Township  
2911 Dorr Road  
Brighton, MI 48116

Re: **ALDI FOOD MARKET #51 Remodel and Expansion**  
Section 6, Genoa Township, Property I.D. #4711-06-100-044

Dear Ms. VanMarter;

Please find enclosed the following documentation for the above referenced project:

- Four (4) sets of the revised Site Plan
- Four (4) copies of the Impact Assessment

The enclosed Site Plan has been revised to address review comments prepared by the Township consultants. In response to the LSL Planning, Inc., review letter dated February 14, 2018 we offer the following (please refer to the numbered summary items on the review letter):

1. We are requesting a variance to the property line setback for parking to allow the proposed parking spaces within the existing parking easement.
2. We concur. Please note materials on the proposed expansion will match existing building.
3. ALDI, Inc. requires new stores to provide 1 parking space per each 200 square feet of the total building area.
4. See comments #1 and #3, above.
5. We have noted the looped striping for the parking spaces on Sheet SP, Note 8.
6. Pertaining to the greenbelt landscaping, it was determined that Evergreen trees would be acceptable to screen adjacent properties. Ornamental trees size has been revised to 2.5" caliper. Refer to Table on Sheet LA1.

In response to the Brighton Area Fire Authority., review letter dated February 14, 2018 we offer the following (please refer to the numbered summary items on the review letter):

1. The proposed FDC location as depicted on the plans is acceptable to the Fire Marshal.
2. A new fire hydrant is proposed to be constructed South of the existing parking lot.
3. Noted
4. Noted
5. Fire lane signage has been added to the plans and a sign detail added to Sheet DT2.
6. Emergency vehicle circulation has been depicted on Sheet DT4 with turning radii of 30 feet inside and 50 feet outside.
7. The Knox box location has been noted on Sheet A-201, adjacent to the new main entrance.

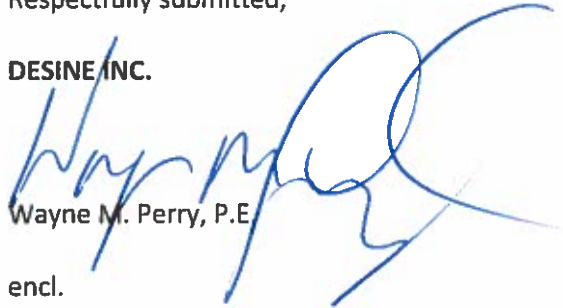
In response to the Tetra Tech., review letter dated February 14, 2018 we offer the following (please refer to the numbered summary items on the review letter):

1. Heavy duty bituminous pavement cross-section has been revised to provide a 4-inch leveling course.
2. Modifications to the storm water management system plans include:
  - o Additional spot grades have been added to Sheet EX1 around the existing detention pond to more accurately reflect the existing ground elevation. The existing detention basin provides the required 1-foot free board above the 100-year storage elevation.
  - o The existing Detention Volume Calculations and Control Structure Calculations have been updated on Sheet UT2. The Control Structure will be modified to provide the required detention pond storage volume. A Control Structure Modification Detail has been added to Sheet DT3 to depict the proposed structure modifications.
  - o The Control Structure Calculations on Sheet UT2 have been revised to reflect the noted Bankfull Flood Volume calculation change. A control structure standpipe detail, CS-101, has been added to sheet DT3.

If you have questions pertaining to the revised plans, or should you require additional information, please contact me at your convenience.

Respectfully submitted,

DESINE INC.



Wayne M. Perry, P.E.

encl.

cc: Mr. David Kapusansky/Aldi Inc.

**IMPACT ASSESSMENT**  
**for the**  
**ALDI FOOD MARKET**  
**SITE DEVELOPMENT**

Developer:  
**ALDI Inc.**  
**2625 North Stockbridge Road**  
**Webberville, Michigan 48892**

Prepared by:  
**DESINE Inc.**  
**2183 Pless Drive**  
**Brighton, Michigan 48114**

April 30, 2008  
**Amended January 25, 2018**

January 25, 2018

## Introduction

This impact assessment has been prepared pursuant to Section 18.07 of the Genoa Township Zoning Ordinance. This assessment addresses the impact of development of the proposed ALDI Food Market Commercial Development on the natural features, economic condition and social environment of the Township.

The project site consists of approximately 3.13 acres of property zoned **General Commercial District (GCD)** located on the south side of Grand River Avenue, west of Golf Club Road, in Section 6 as shown in Figure 1. The site is currently developed with a 16,657 SF single story commercial building, paved parking area and associated infrastructure. The existing building contains an ALDI Food Market limited assortment grocery store. The existing parking area has a limited access right in / right out driveway on Grand River Avenue and a full access driveway along the Livingston County Complex driveway.

The existing building, paved parking area and infrastructure will remain. A 2,254 SF building addition is proposed along the east side of the existing building within a portion of the existing parking area to provide a total of 18,911 SF that will continue to be utilized as an ALDI Food Market. Minor modifications of the existing parking area are proposed to accommodate the proposed building addition. 24 new parking spaces are proposed along the existing rear drive. The proposed site improvements will increase the parking count from 71 to 95 spaces to accommodate the increase in customer base since 2008. Additional site improvements include site lighting and landscaping improvements as depicted on the Site Plan.

The subject property is located in a significantly developed area, surrounded by restaurant, retail, office and industrial uses. An aerial photograph (circa 2017) of the surrounding area and existing conditions is provided in Figure 2.

January 25, 2018

This impact assessment has been prepared under the direction of and by:

Christopher A. Grzenkowicz, P.E.  
DESINE Inc.  
2183 Pless Drive  
Brighton, Michigan 48114  
(810) 227-9533

The civil engineering / surveying firm of DESINE Inc. has been in practice since 1989. Mr. Grzenkowicz is a licensed Civil Engineer with experience in private and municipal developments including a number of projects within Genoa Township and Livingston County.

#### **A. IMPACT ON NATURAL FEATURES**

Prior to the construction of the existing ALDI Food Market, the subject property was previously developed with a fast food restaurant and a bank. The majority of the site had been disturbed during the construction of the previous development. The previous buildings, parking areas and infrastructure was removed to allow for construction of the existing ALDI Food Market development. The southern portion of the site contained brush and small trees prior to the existing development. This area was utilized to construct a detention basin for treatment of storm water runoff from the ALDI development. Following construction of the detention basin, this area was stabilized with vegetative growth and now contains a mixture of grasses, shrubs and mature trees. The existing topography of the site generally slopes from Grand River in the northeast to the railroad corridor in the southwest. Slopes are ranging from 1 percent to 5 percent. Elevation difference across the property is approximately 8 feet. Surface water runoff from the subject and adjacent properties flows generally from northeast to southwest toward the existing drainage swale adjacent to the railroad tracks. An existing underground storm sewer system collects runoff from the subject property and directs it to an existing detention basin which discharges at an agricultural rate to the serving the existing drainage swale adjacent to the railroad tracks. The existing site topography is depicted on the Existing Conditions Plan.

The soils on the subject property are primarily Boyer-Oshtemo loamy sands. These soils are generally well-drained, moderately permeable, loamy sands. Soil classifications are prepared by the United States Department of Agriculture, National Resource Conservation Service. The Soils Map, shown in Figure 3, shows the locations of specific soil types as classified.

Previous development of the subject property required land balancing to establish final

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grades and provide proper drainage. The proposed building addition and parking improvements are designed to mesh with the existing site improvements as close as possible. Minimal demolition and site grading is necessary to accommodate the proposed building and site improvements.

The limits of disturbance have been depicted on the Soil Erosion and Sedimentation Control Plan. Grading for this project will maintain the general character of the existing site conditions. Development of the proposed site improvements will require minimal exporting of excess topsoil and minimal importing of additional granular fill material.

Vegetation in the area of the proposed parking area improvements will be disturbed. Existing vegetation in these areas consists of open lawn and landscape trees planted during the original development of the existing ALDI Food Market. No landmark trees have been identified on the site. Existing landscape trees consist of spruce, pine, pear, locust, maple and ginko. Existing on-site mature trees consist of elm, cottonwood, box elder, poplar, apple, aspen and oak. The existing mature trees are located in southwestern portion of the property surrounding the existing detention basin. No existing mature trees will be removed as a part of this project. Existing landscape trees within the proposed building addition area and proposed parking areas will be removed to accommodate the proposed site improvements. Those trees to be removed will be replaced with new plantings. Additional landscaping is proposed to ensure the site is in conformance with the current Zoning Ordinance requirements. Existing trees, including those trees to be removed, are depicted on the Existing Conditions Plan. Proposed replacement trees and other proposed landscaping improvements are depicted on the Landscape Plan.

No wetland areas are present on the project site.

Surface drainage characteristics of the site will not be significantly impacted. The proposed site improvements are designed to direct storm water runoff to the existing storm water management system. The proposed site improvements will result in a minimal reduction of permeable area on the subject property as compared to existing conditions and a minimal increase in the surface water runoff generated from the development site. The proposed increase in lot coverage is approximately 2.8%. The overall proposed lot coverage is 61.8%, well below the 75% allowable. Surface water runoff generated by the proposed site improvements will be directed to the existing detention basin.

The existing detention basin was designed and constructed to accept storm water runoff from the project site in accordance with Genoa Township and Livingston County Drain Commissioner rules and regulations. An analysis of the existing storm water management system has been performed to verify that the existing storm water management system can

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accommodate the runoff to be generated by the proposed site improvements. The storm sewer analysis calculations are provided on sheet UT2 of the Site Plan.

The minimal impact of surface drainage alterations will not significantly impact local aquifer characteristics or groundwater recharge capacity. Surface water runoff from the developed site will flow into the existing detention basin which discharges along the historical drainage path adjacent to the railroad tracks.

Wildlife habitats exist primarily on the southern portion of the property which includes the existing detention basin, tall grasses, brush, shrubs and mature trees. Wildlife supported in these habitats are generally smaller woodland creatures, field animals and birds. Larger animals, such as deer, may traverse the site. The existing developed portion of the site does not contain any significant wildlife habitat areas. The proposed site improvements do not result in a significant impact to the existing wildlife habitats. No site improvements or disturbance is proposed in the southern portion of the site.

The project site does not currently support significant wildlife habitats and development of the proposed site improvements will not have a significant impact on the overall habitat quality. No significant adverse impact to existing natural features are anticipated due to the proposed site improvements for this property.

## **B. IMPACT ON STORM WATER MANAGEMENT**

The subject property contains an existing storm water management system consisting of an underground storm sewer network, a sedimentation basin and a detention basin. Minimal earthwork and site grading is necessary to accommodate the proposed site improvements and to direct surface drainage from the proposed site improvements to the existing storm water management system. Earthwork will be limited to the areas of proposed building and parking improvements.

Catch basins will collect surface water from parking and drive areas, building areas, and open space areas. Grading for the proposed site improvements will mesh with existing grades immediately surrounding the improvement areas. No adverse impact to adjoining properties is anticipated due to grading or construction of the proposed site improvements.

Soil erosion and sedimentation control is governed by the Soil Erosion Control Act No. 347 of the Public Acts of 1972, as amended as administered by the Livingston County Drain Commissioner. Silt fencing, sediment inlet filters and other soil erosion control measures will be required around the areas of the proposed site improvements as depicted on the Soil Erosion and Sedimentation Control Plan. The Contractor shall be responsible for initiating

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and maintaining adequate dust control measures during construction. The Contractor shall also be responsible for complying with all soil erosion and sedimentation control regulations during and after construction until the project site is fully stabilized and vegetative cover is established within the disturbed areas outside of hard surfacing.

Impact to adjoining properties due to the construction of the site improvements will be minimized by implementing soil erosion and sedimentation control measures. No adverse impact to adjacent properties due to surface water runoff will be created as a result of the proposed site improvements.

### **C. IMPACT ON SURROUNDING LAND USES**

Property to the North of the site is zoned Neighborhood Service (NS) and is occupied by CVS Pharmacy. Property to the East is zoned General Commercial District (GCD) and serves as the entryway to the Livingston County East Complex, east of that is PNC Bank. The Livingston County East Complex is located south of the subject parcel and is zoned GCD. West of the property is Mourad's Grill, also zoned GCD.

The Genoa Township Future Land Use Plan designates the subject property for General Commercial uses. The surrounding property is also designated for General Commercial use.

The existing use is consistent with the existing development in the surrounding area and is consistent with the long term planning within the Township. The proposed landscaping and architecture is consistent with the existing site development to allow this site to continue to be in harmony with the surrounding area. No adverse impact to the surrounding area is anticipated due to the proposed site improvements. All areas disturbed by construction will require restoration.

The continued use of the property as a general commercial use will not create any significant emissions of smoke, airborne solids, odors, gases, vibrations, noise or glare discernable and substantially annoying or injurious to persons and/or property beyond the lot lines. Radioactive emissions and electromagnetic radiation shall not be emitted in excess of quantities established as safe in accordance with the ordinance when measured at the property lines. No flammable liquids, gases or explosives shall be stored or used on the property. No underground or aboveground storage tanks are proposed on the property.



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**D. IMPACT ON PUBLIC FACILITIES AND SERVICES**

Police protection is and will continue to be provided by the Livingston County Sheriff and the Michigan State Police. Additional services required to accommodate the proposed site improvements are anticipated to be minimal.

Fire protection is provided by the Brighton Area Fire Department. The subject property is within the water district and fire hydrants are readily accessible for utilization in the event of a fire. Adequate fire protection systems are provided within the existing building and are proposed within the building addition. Additional fire protection services required to accommodate the proposed site improvements are anticipated to be minor.

Construction of the proposed site improvements will not create any direct adverse impact on the schools.

**E. IMPACT ON PUBLIC UTILITIES**

The subject property is located within the municipal sewer and water districts. Existing water main and sanitary sewer are located in easements to the south and east of the existing building. The existing building is connected to the existing sanitary sewer and water main.

Water service to the building is provided from the existing water main located within an easement that traverses the property south of the existing building. No significant increase in water use is anticipated as a result of the proposed site improvements. Capacity is available within the existing water system to provide adequate service to this development.

Sanitary sewer service for the development is provided by the existing sanitary sewer main which traverses the site south of the existing building. No significant increase in sanitary sewage flow is anticipated as a result of the proposed site improvements. Capacity is available within the existing sanitary sewer system to provide adequate service to this development.

The site is serviced by electric, gas, phone and cable TV systems located along Grand River Avenue. No significant increase in demand or use of the existing public utility systems is anticipated as a result of the proposed site improvements.

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**F. STORAGE AND HANDLING OF ANY HAZARDOUS MATERIALS**

The proposed general commercial space will not utilize or store any potentially hazardous or polluting materials other than standard household type cleaning products. All solid wastes should be properly disposed of through a licensed waste disposal firm on a regular basis.

**G. IMPACT ON TRAFFIC AND PEDESTRIANS**

The project site is located along the Grand River Avenue corridor. Grand River Avenue, in the area of the proposed development, is major arterial public street consisting of four directional traffic lanes and a center left turn lane. Access to the site from Grand River Avenue is provided via a limited access, right in – right out driveway near the west side of the site and thru the driveway serving the Livingston County East Complex.

Traffic Engineering Associates, Inc. located in Lansing Michigan has prepared a Traffic Assessment for the existing development (Attachment 1). The Traffic Assessment has been provided to and reviewed by both the Livingston County Road Commission and Michigan Department of Transportation.

The Traffic Assessment projected the ALDI development to generate 49 vehicle trips in the AM Peak hour, 208 vehicle trips in the PM peak hour and 1534 vehicle trips daily. A significant amount of the trips are classified as Pass-By Trips. Pass-by trips are already present in the existing passing traffic.

The actual traffic generated by the development of the ALDI Food Market is now existing in the traffic stream. The existing ingress and egress points and signalized intersection of Grand River / Golf Club / Livingston County Complex Driveway operate at an acceptable level of service. The proposed site improvements are not anticipated to result in a significant increase in traffic. No significant impact on the major thoroughfares of Livingston County is anticipated as a result of the proposed site improvements.

The existing development provides service to pedestrian traffic through a pedestrian sidewalk connection from the existing sidewalk along Grand River to the building entrance. The pedestrian access will be maintained as a part of the proposed site improvements. No significant increase in pedestrian traffic or adverse impact upon pedestrian traffic is anticipated as a result of the proposed site improvements.

January 25, 2018

**H. SPECIAL PROVISIONS**

A variance has been obtained for the reduction of the parking setback from the Right-of-Way of Grand River Avenue. A reduction of 16 feet was granted to allow the 4-foot parking setback from the R.O.W for the portion of the parking area adjacent to the 75-foot wide ½ R.O.W.

An easement agreement to utilize the driveway to the Livingston County East Complex has been entered into. No additional special provisions or requirements are currently proposed for this facility.

**I. SITE LIGHTING**

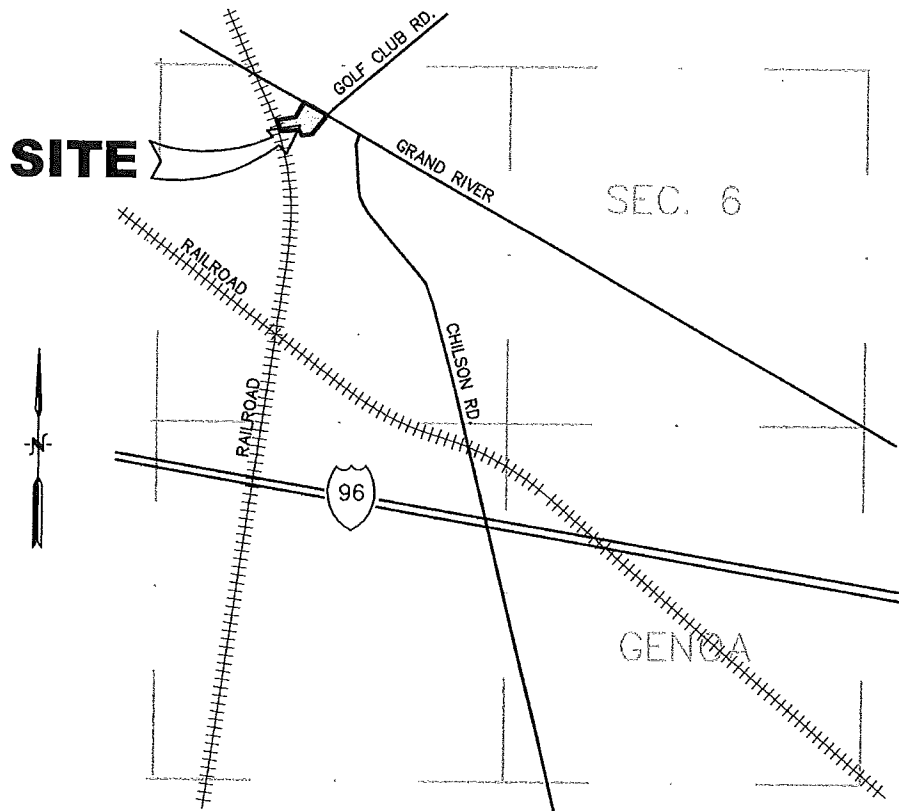
All site lighting shall meet the requirements of the Genoa Township ordinances. Exterior building mounted site lighting shall be shielded and down directed. Pole mounted site lighting is proposed for this project. All pole-mounted lighting shall be shielded and down directed on the site. General site lighting, excluding safety and emergency lighting, shall be used between the times from dusk to 12:00 a.m. and from 5:00 a.m. to dawn.

**J. HOURS OF OPERATION**

Hours of operation will generally be between 9:00 am to 8:00 pm seven (7) days a week. Corporate deliveries are the bulk of the product line and are scheduled when the store is closed. Corporate deliveries typically do not exceed one (1) delivery per day. Supplier delivery trucks deliver milk, bread, pop and similar products periodically during regular business hours. Supplier deliveries typically occur once or twice a week depending on the product delivered.

January 25, 2018

## FIGURE #1



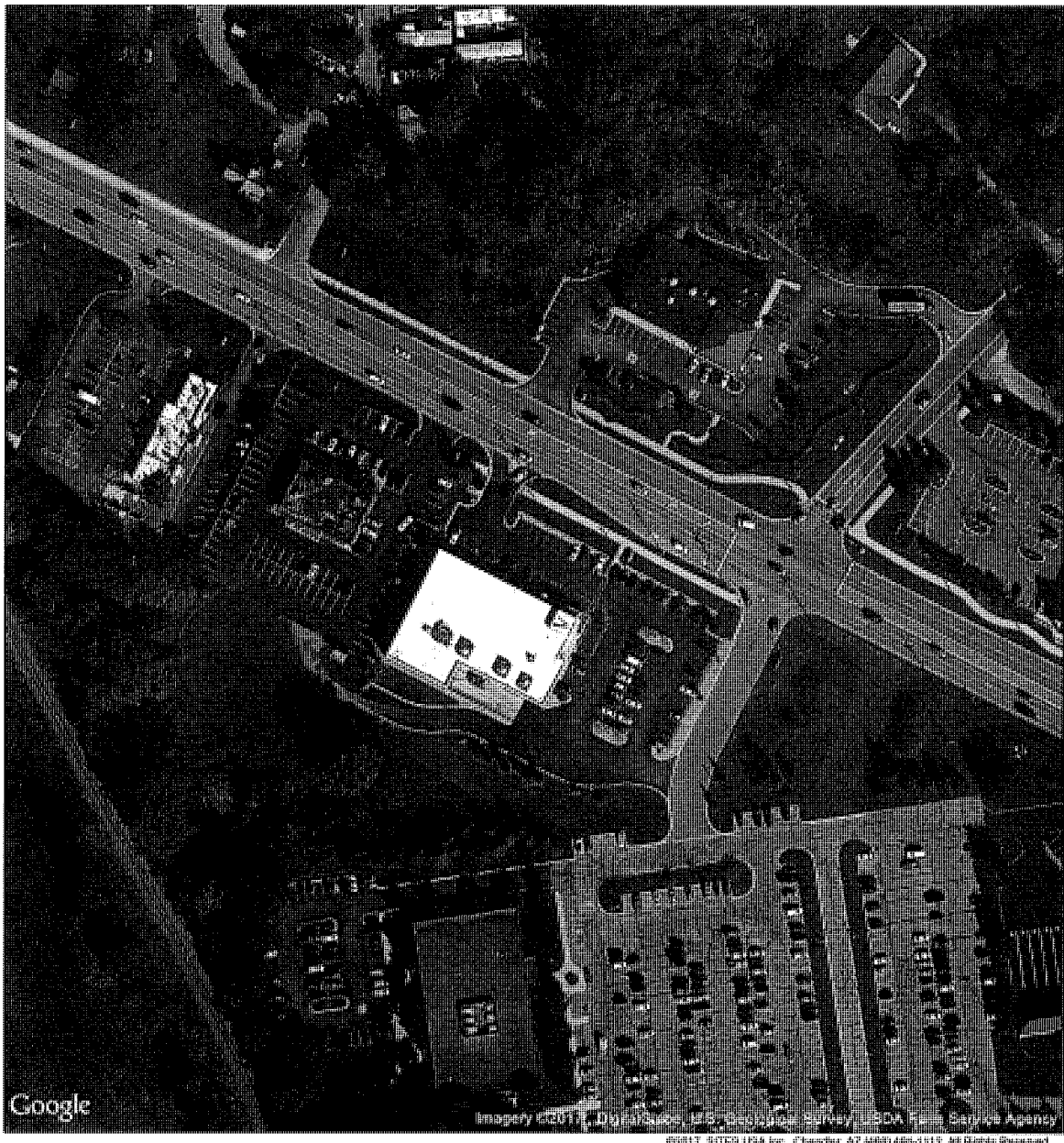
## LOCATION MAP

NOT TO SCALE

Site Address  
2260 E. Grand River Avenue  
Howell, MI 48843

January 25, 2018

## FIGURE #2



## AERIAL PHOTOGRAPH

NO SCALE

January 25, 2018

## FIGURE #3



## SITE SOILS

NO SCALE

Source: Web Soil Survey  
United States Department of Agriculture,  
Natural Resources Conservation Service

### Soil Legend:

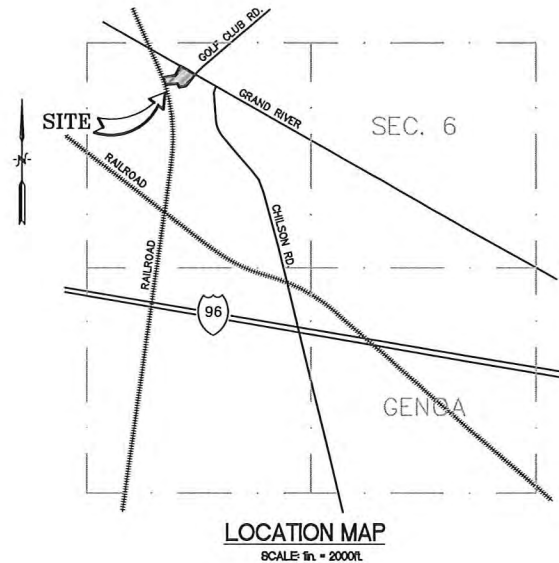
BtE Boyer-Oshtemo loamy sands, 18 to 25 percent slopes  
BtA Boyer-Oshtemo loamy sands, 0 to 2 percent slopes  
MoE Miami loam, 18 to 25 percent slopes

January 25, 2018

**ATTACHMENT #1**

# SITE PLAN FOR ALDI FOOD MARKET #51

REMODEL AND EXPANSION  
2260 EAST GRAND RIVER AVENUE HOWELL, MI 48843  
A PART OF THE NORTHWEST 1/4 OF SECTION 6, T2N, R5E  
GENOA TOWNSHIP, LIVINGSTON COUNTY, MICHIGAN



**LEGAL DESCRIPTION:**

Commencing at the Northwest Corner of Section 6, Town 2 North, Range 5 East, Genoa Township, Livingston County, Michigan; thence S87°07'30"E 841.85 feet (S87°02'00"E 844.70 feet record) along the North line of said Section 6; thence S60°06'45"E 609.89 feet (606.69 feet record) along the centerline of Grand River Avenue to the PLACE OF BEGINNING; thence continuing S60°06'45"E 358.81 feet along said centerline of Grand River Avenue (variable width Right-of-way); thence S50°33'30"W 64.79 feet; thence S29°56'47"W 193.35 feet; thence S84°35'37"W 100.61 feet; thence N03°34'18"W 14.51 feet; thence N60°06'45"W 85.63 feet; thence S69°20'23"W 346.13 feet (S69°14'28"W 346.09 feet record, also recorded as S69°20'02"W 345.92 feet, also recorded as S69°18'10"W 346.39 feet); thence N25°35'10"W 120.00 feet along the Easterly line of the Tuscola and Saginaw Bay Railway (66 foot wide Right-of-Way), formerly known as Ann Arbor Railroad; thence N68°26'35"E 254.80 feet; thence N29°53'15"E 300.00 feet to the Place of Beginning. Being a part of the Northwest 1/4 of Section 6, Town 2 North, Range 5 East, Genoa Township, Livingston County, Michigan. Containing 3.14 acres of land, more or less. Subject to the rights of the public over that portion thereof taken for Grand River Avenue, also subject to and together with all easements and restrictions affecting title to the above described premises.

**BENCHMARKS:**

DATUM BASED ON PREVIOUS BENCHMARK AS DEPICTED ON AS-BUILT PLANS PREPARED BY DESINE INC., JOB No. 81389, REVISED DATE DECEMBER 3, 2008.  
DATUM AS DEPICTED = NGVD

**PRIMARY (OFF SITE)**

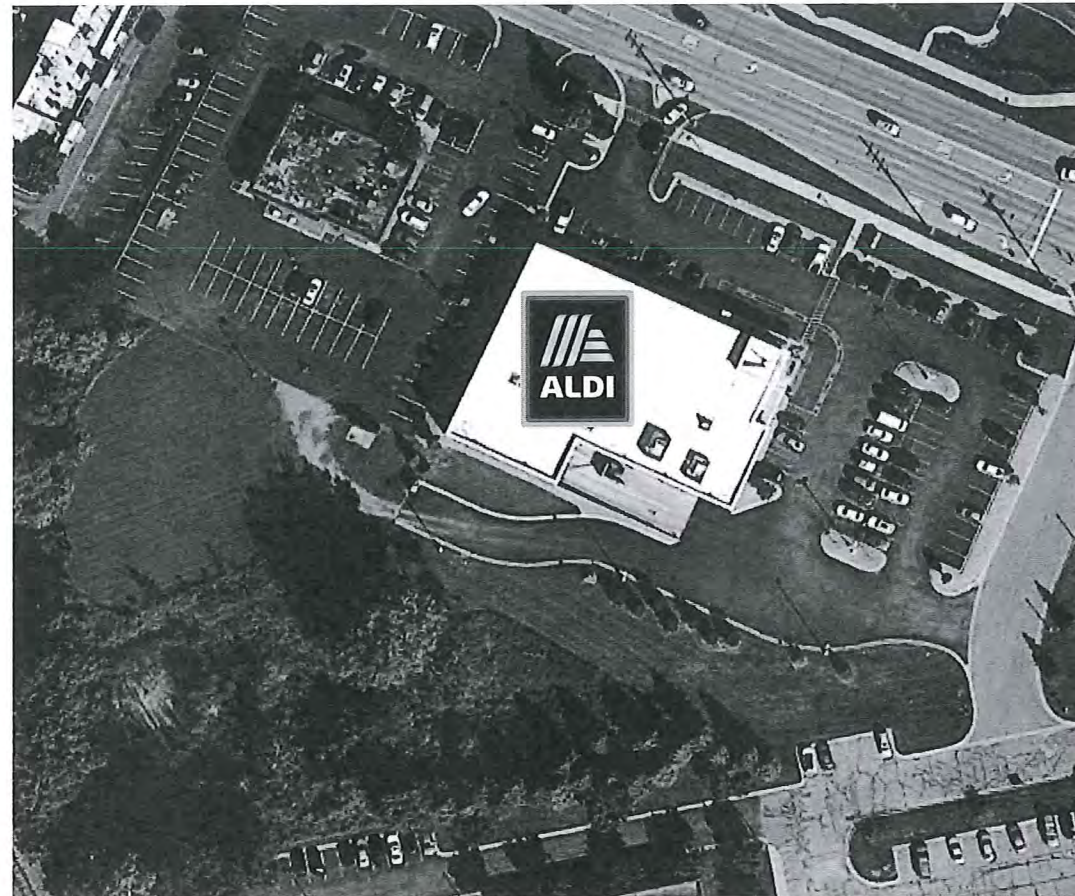
AT HOWELL, LIVINGSTON COUNTY, ON THE ANN ARBOR RAILROAD, 35 YARDS EAST OF THE NORTHEAST CORNER OF THE STATION; 60 YARDS WEST OF A HIGHWAY BRIDGE OVER THE TRACK; 7 YARDS NORTH OF THE WEST RAIL; A STANDARD TABLET STAMPED "G 105 1934" AND SET IN THE TOP OF A CONCRETE POST.  
ELEVATION = 921.931 (NGVD) REF: SEE ABOVE

**BENCHMARK #201**

PREVIOUSLY DESCRIBED AS:  
RAILROAD SPIKE IN THE NORTH SIDE OF AN UTILITY POLE, LOCATED ON THE SOUTH SIDE OF GRAND RIVER AND NEAR ABANDONED McDONALDS RESTAURANT.  
CURRENTLY:  
LOCATED NEAR THE EASTERLY SIDE OF THE NORTHERLY ENTRANCE FROM GRAND RIVER TO "ALDI" STORE.  
ELEVATION = 925.46 (NGVD)  
REF: SEE ABOVE  
FIELD BOOK D405, PG. 43  
POINT #201

**BENCHMARK #200**

ARROW OF HYDRANT, LOCATED 57± FEET NORTHERLY OF THE NORTHEASTERLY BUILDING CORNER "ALDI."  
ELEVATION = 930.09 (NGVD) REF: POINT #200



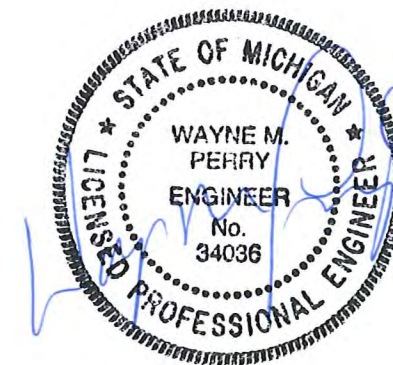
**AERIAL PHOTOGRAPH**  
SCALE: NOT TO SCALE

AERIAL PHOTOGRAPHY BY:  
Google maps

Aerial photographic underlay is an unrectified image and is oriented to the engineering line work with reasonable accuracy and precision, and may not accurately depict current site conditions.

**SHEET INDEX**

- EX1 EXISTING CONDITIONS & DEMOLITION PLAN
- EX2 EXISTING SITE DATA & DEMOLITION NOTES
- SP SITE PLAN
- UT1 UTILITY PLAN
- UT2 STORM WATER MANAGEMENT CALCULATIONS
- GR GRADING PLAN
- SE1 SOIL EROSION & SEDIMENTATION CONTROL PLAN
- SE2 SOIL EROSION & SEDIMENTATION CONTROL NOTES & DETAILS
- LA1 LANDSCAPE PLAN
- LA2 LANDSCAPE NOTES & DETAILS
- LT1 SITE LIGHTING PLAN
- LT2 SITE LIGHTING NOTES AND DETAILS
- DT1 SITE PAVEMENT NOTES & DETAILS
- DT2 SIGNAGE & PAVEMENT MARKING NOTES & DETAILS
- DT3 STORM SEWER NOTES & DETAILS
- DT4 WATER MAIN & SANITARY SEWER NOTES & DETAILS
- DT5 M.H.O.G. STANDARD DETAILS
- DT6 M.H.O.G. STANDARD DETAILS
- A-131 BUILDING FLOOR PLAN / OPERATIONS PLAN
- A-201 EXTERIOR ELEVATIONS



**ENGINEER/SURVEYOR**

DESINE INC.  
2183 PLESS DRIVE  
BRIGHTON, MICHIGAN 48114  
PHONE: (810) 227-9533

**DEVELOPER / APPLICANT**

ALDI Inc.  
2625 N. STOCKBRIDGE ROAD  
WEBBERVILLE, MICHIGAN 48892  
PHONE: (517) 521-3907

**ARCHITECT**

APD ENGINEERING AND ARCHITECTURE, PLLC  
615 FISHERS RUN  
VICTOR, NEW YORK 14564  
PHONE: (585) 742-2222

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FEB 21, 2018	PROJECT No.: 9173290
	DWG NAME: 3290-COV
	PRINT: FEB 21, 2018

**DESINE INC.**  
(810) 227-9533  
CIVIL ENGINEERS  
LAND SURVEYORS  
2183 PLESS DRIVE  
BRIGHTON, MICHIGAN 48114



**BENCHMARK**  
 DATUM BASED ON PREVIOUS BENCHMARK AS  
 DEPICTED ON AS-BUILT PLANS PREPARED BY  
 DESINE INC., JOB No. 81389, REVISED DATE  
 DECEMBER 3, 2008.  
 DATUM AS DEPICTED = NGVD

**PRIMARY (OFF SITE)**  
 AT HOWELL, LIVINGSTON COUNTY, ON THE ANN  
 ARBOR RAILROAD, 35 YARDS EAST OF THE  
 NORTHEAST CORNER OF THE STATION; 80  
 YARDS WEST OF A HIGHWAY BRIDGE OVER THE  
 TRACK; 7 YARDS NORTH OF THE WEST RAIL; A  
 STANDARD TABLE STAMPED "G 105 1934" AND  
 SET IN THE TOP OF A CONCRETE POST.  
 ELEVATION = 921.931 (NGVD)  
 REF: SEE ABOVE

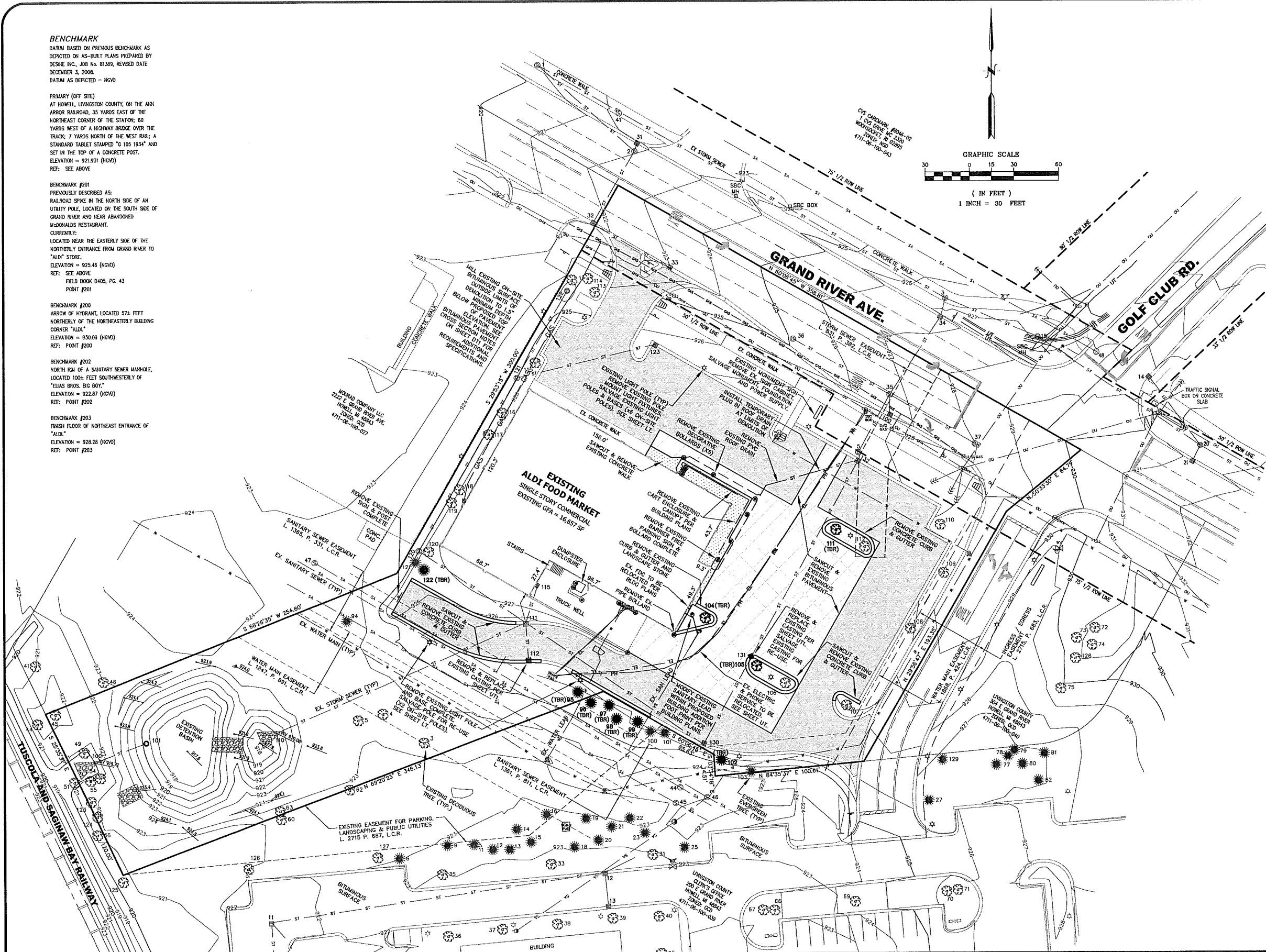
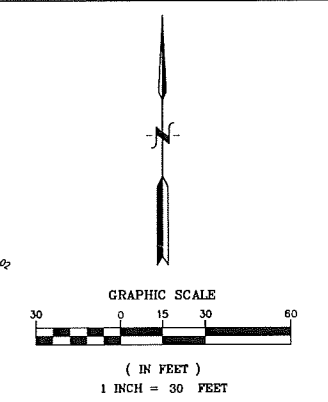
**BENCHMARK #201**  
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 GRAND RIVER AND NEAR ABANDONED  
 WISCONSINS RESTAURANT.  
 CURRENTLY:  
 LOCATED NEAR THE EASTERLY SIDE OF THE  
 NORTHERLY ENTRANCE FROM GRAND RIVER TO  
 "ALDI" STORE.  
 ELEVATION = 925.46 (NGVD)  
 REF: SEE ABOVE  
 FIELD BOOK D405, PG. 43  
 POINT #201

**BENCHMARK #200**  
 ARROW OF HYDRANT, LOCATED 57.4 FEET  
 NORTHERLY OF THE NORTHEASTERLY BUILDING  
 CORNER "ALDI."  
 ELEVATION = 930.09 (NGVD)  
 REF: POINT #200

**BENCHMARK #202**  
 NORTH RM OF A SANITARY SEWER MANHOLE,  
 LOCATED 1000+ FEET SOUTHWESTERLY OF  
 "TEJAS BROS. BIG BOY."  
 ELEVATION = 922.87 (NGVD)  
 REF: POINT #202

**BENCHMARK #203**  
 FRESH FLOOR OF NORTHEAST ENTRANCE OF  
 "ALDI."  
 ELEVATION = 928.28 (NGVD)  
 REF: POINT #203

- LEGEND**
- MISC. STRUCTURE (AS LABELED)
  - BOLLARD
  - ☆ SIGN
  - LIGHT BASE
  - UTILITY MANHOLE (AS LABELED)
  - UTILITY POLE W/OUT WIRE
  - OVERHEAD UTILITY LINES (ELECTRIC/PHONE/CABLE)
  - U/G LINES (ELECTRIC/PHONE/CABLE)
  - DECIDUOUS TREE W/IDENTIFIER
  - EX CONCRETE CURB (UNLESS OTHERWISE STATED)
  - SANITARY SEWER MANHOLE W/IDENTIFIER
  - SANITARY SEWER PIPE
  - CLEAN OUT
  - CONTROL STRUCTURE
  - STORM WATER MANHOLE W/IDENTIFIER
  - CATCH BASIN W/IDENTIFIER
  - FLARED END SECTION
  - EX STORM WATER DRAINAGE PIPE
  - HYDRANT
  - WATER SHUT OFF
  - WATER VALVE
  - WATER VALVE BOX
  - WATER MAIN
  - GAS SHUT OFF
  - U/G GAS
  - 1' CONTOUR
  - 5' CONTOUR
  - SOIL BORING W/ IDENTIFIER
  - CONCRETE WALK TO BE REMOVED
  - BITUMINOUS PAVEMENT TO BE REMOVED
  - BITUMINOUS PAVEMENT TO BE MILLED



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DESIGN: FAF	REVISION #	DATE	REVISION-DESCRIPTION	REVISION #	DATE	REVISION-DESCRIPTION	<p><b>ALDI FOOD MARKET #51</b>          HOWELL, MI</p> <p style="font-size: small;">EXISTING CONDITIONS AND          DEMOLITION PLAN</p>	CLIENT:	SCALE: 1"=30'
DRAFT: SES	1	02-21-18	REVISED PER TOWNSHIP REVIEW COMMENTS					ALDI Inc.	PROJECT No: 9173280
CHECK: CAG								2625 N. STOCKBRIDGE RD. WEBBERVILLE, MICHIGAN 48892 (517) 521-3907	DWG NAME: 3290 EX ISSUED: FEB 21, 2018

EX1

**EXISTING TREE SCHEDULE:**

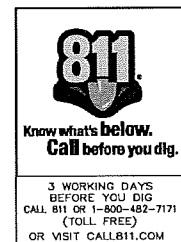
- 1 8" MAPLE
- 3 18" ELM
- 4 24" COTTONWOOD
- 5 18" COTTONWOOD
- 6 9" PINE
- 9 8" PINE
- 11 9" PINE
- 12 8" PINE
- 13 9" PINE
- 14 8" PINE
- 15 9" PINE
- 16 8" PINE
- 18 8" PINE
- 19 9" PINE
- 20 9" PINE
- 21 10" PINE
- 22 10" PINE
- 23 6" PINE
- 25 6" PINE
- 27 6" PINE
- 31 11" CRABAPPLE
- 33 12" CRABAPPLE
- 35 9" CRABAPPLE
- 36 8" CRABAPPLE
- 37 12" CRABAPPLE
- 38 9" CRABAPPLE
- 39 9" CRABAPPLE
- 40 7" CRABAPPLE
- 41 10" BOX ELDER
- 44 7" TWIN OAK
- 45 11" BOX ELDER
- 46 12" TWIN BOX ELDER
- 47 12" TWIN BOX ELDER
- 48 24" TWIN LOCUST
- 49 18" POPLAR
- 50 18" LOCUST - DEAD
- 51 12" POPLAR
- 52 12" POPLAR
- 54 20" POPLAR
- 55 22" POPLAR
- 56 13" TWIN BOX ELDER
- 60 12" POPLAR - DEAD
- 62 10" APPLE
- 63 19" ASPEN
- 64 7" CRABAPPLE
- 65 7" CRABAPPLE
- 66 3" CHERRY
- 67 3" CHERRY
- 69 3" CHERRY
- 70 4" CHERRY
- 71 4" CHERRY
- 72 9" CRABAPPLE
- 73 5" CRABAPPLE
- 74 9" CRABAPPLE
- 75 7" CRABAPPLE
- 77 7" PINE
- 78 8" PINE
- 79 8" PINE
- 80 8" PINE
- 81 8" PINE
- 82 6" PINE
- 83 6" TWIN PINE
- 84 9" PINE
- 85 9" PINE
- 86 9" PINE
- 87 9" PINE
- 88 9" PINE
- 89 6" CRABAPPLE
- 90 6" CRABAPPLE
- 91 6" CRABAPPLE
- 92 6" CRABAPPLE
- 93 6" CRABAPPLE
- 94 6" PINE
- 95 6" PINE (TBR)
- 96 6" PINE (TBR)
- 97 6" PINE (TBR)
- 98 6" PINE (TBR)
- 99 6" PINE (TBR)
- 100 6" PINE
- 101 6" PINE
- 102 6" SPRUCE (TBR)
- 103 6" SPRUCE
- 104 5" PEAR (TBR)
- 105 4" LOCUST (TBR)
- 106 4" LOCUST
- 107 4" PEAR
- 108 5" GINKO
- 109 3" GINKO
- 110 6" PEAR
- 111 4" LOCUST (TBR)
- 112 3" LOCUST
- 113 6" PEAR
- 114 6" PEAR
- 115 5" PEAR
- 116 6" PEAR
- 117 6" PEAR
- 118 6" PEAR
- 119 6" PEAR
- 120 6" PEAR
- 121 6" SPRUCE
- 122 6" SPRUCE (TBR)
- 123 11" TRIPLE OAK
- 124 9" TWIN OAK
- 125 9" TWIN OAK
- 126 12" TWIN OAK
- 127 12" TWIN OAK
- 128 7" CRABAPPLE
- 129 6" PINE

**EXISTING STRUCTURE INVENTORY**

STORM MANHOLE #1 RM 926.89	CATCH BASIN #14 RM 926.13	CB-100 RM 926.60
STORM MANHOLE #2 RM 921.98	YARDBASIN #15 RM 926.12	CS-101 RM 922.67 15" SW RCP 919.92
STORM MANHOLE #3 RM 926.74	YARDBASIN #20 RM 930.43	CB-111 RM 925.06 12" N PVC 920.58 12" NW HDPE-5 920.75 12" NE RCP 920.74 15" SE RCP 920.73 12" S RCP 921.00 18" SW RCP 920.45
STORM MANHOLE #5 RM 926.44 NORTHEAST 15" RCP 914.69 SOUTH 8" RCP 914.64	CATCH BASIN #21 RM 931.09	CB-112 RM 925.07 12" N RCP 921.08
CATCH BASIN #31 RM 921.77 SOUTHWEST 15" RCP	CATCH BASIN #22 RM 934.08	CB-115 RM 923.97 12" SW RCP 921.87
CATCH BASIN #32 RM 921.69 NORTHEAST 15" RCP 916.29 SOUTHWEST 15" RCP 916.45	YARDBASIN #23 RM 934.28	CB-116 RM 925.07 12" N RCP 921.08
CATCH BASIN #33 RM 922.96 NORTHWEST 15" RCP 920.96	CATCH BASIN #24 RM 934.60	CB-117 RM 923.97 12" SW RCP 921.87
CATCH BASIN #34 RM 926.83 SOUTHWEST 15" RCP	CATCH BASIN #25 RM 933.14	CB-118 RM 925.07 12" N RCP 921.08
MANHOLE #35 RM 926.70 NORTHWEST 12" RCP 920.60 NORTHEAST 15" RCP 914.10 SOUTHWEST 12" RCP 922.10 SOUTHWEST 15" RCP 914.25	CATCH BASIN #26 RM 921.38 SOUTHWEST 14" RCP 918.24 SOUTHWEST 14" RCP 918.24	CB-119 RM 925.07 12" N RCP 921.08
MANHOLE #36 RM 925.01 SOUTHWEST 12" RCP 921.86	SANITARY SEWER MANHOLE #41 RM 922.15	CB-120 RM 925.07 12" N RCP 921.08
MANHOLE #37 RM 927.96 NORTHWEST 12" RCP 922.61	SANITARY SEWER MANHOLE #42 RM 923.13	CB-121 RM 925.07 12" N RCP 921.08
CATCH BASIN #11 RM 921.31 E-NORTHEAST 24" RCP 918.11 SOUTH 24" RCP 918.11 SOUTHWEST 8" PVC 917.06	SANITARY SEWER MANHOLE #43 RM 924.83	CB-122 RM 925.07 12" N RCP 921.08
CATCH BASIN #12 RM 921.42 W-SOUTHWEST 24" RCP 917.37 E-NORTHEAST 24" RCP 917.22 S-SOUTHWEST 12" RCP 917.37	SANITARY SEWER MANHOLE #44 RM 923.14 NORTHWEST SDR TOP OF PIPE 918.04 SOUTHWEST SDR TOP OF PIPE 917.79	CB-123 RM 925.07 12" N RCP 921.08
CATCH BASIN #13 RM 921.09 N-NORTHEAST 12" RCP 917.94	SANITARY SEWER MANHOLE #45 RM 923.37	CB-124 RM 925.07 12" N RCP 921.08
	SANITARY SEWER MANHOLE #46 RM 923.03 SOUTHWEST 8" PVC 913.67 NORTHWEST 8" PVC 913.47 SOUTHWEST 8" PVC 913.61	CB-125 RM 925.07 12" N RCP 921.08
	SANITARY SEWER MANHOLE #47 RM 923.57 SOUTHWEST 8" PVC 912.02 NORTHWEST 8" CLAY 911.92	CB-126 RM 925.07 12" N RCP 921.08
	SANITARY SEWER MANHOLE #48 RM 928.05	CB-127 RM 925.07 12" N RCP 921.08

**DEMOLITION NOTES:**

1. The demolition specifications of the Local Municipality are a part of this work. Refer to the General Notes on the project plans for additional requirements.
2. Contractor shall contact the 811 Underground Public Utility Locating System or other appropriate local underground utility locating Agency, a minimum of three (3) working days prior to performing demolition work. Existing utility information on the project plans may be from information disclosed to this firm by the Utility Companies, Local, County or State Agencies, and/or various other sources. No guarantee is given as to the completeness or accuracy thereof. Prior to construction, locations and depths of all existing utilities (in possible conflict with the proposed improvements) shall be verified in the field.
3. Contractor shall contact the appropriate Agencies to coordinate disconnect of the electric, gas, phone, cable and other public utilities as necessary prior to performing demolition work.
4. Contractor shall contact the appropriate Agencies to coordinate removal and/or relocation of any underground and/or overhead public utility lines as necessary prior to performing demolition work.
5. Contractor shall recycle and/or dispose of all demolition material and debris in accordance with the appropriate Local, County, State and Federal regulations.
6. All bituminous and concrete pavement to be removed shall be saw cut at the limits of removal to provide for a clean straight edge for future abutment. The existing pavement that is to be removed, shall remain in place as long as possible to be used as a soil erosion control measure. Contractor shall coordinate the pavement removal work with the appropriate stages of construction. Coordination work shall include removing the existing pavement in sections / stages as necessary to minimize impacts to the adjacent parcel.
7. All existing irrigation lines to be removed shall be terminated at the limits of demolition or as necessary to allow for construction of the proposed site improvements. Ends of pipe shall be capped and the location of marked for future connection.
8. All existing water main and sanitary sewer to be removed shall be terminated at the limits of demolition or as indicated on the project plans. Temporary plugs shall be installed in the ends of pipe in accordance with the appropriate Agency and the locations of marked for future connection. Permanent plugs shall be installed in the ends of pipe in accordance with the appropriate Agency. The Contractor shall record the location of all permanent plugs and provide the location information to the appropriate Agency.
9. All existing storm sewer to be removed shall be terminated at the limits of demolition or as indicated on the project plans. Temporary plugs shall be installed in the ends of pipe in accordance with the appropriate Agency and the locations of marked for future connection. Permanent bulkheads shall be installed in the ends of pipe and/or openings in terminating structures in accordance with the appropriate Agency. The Contractor shall record the location of all permanent bulkheads and provide the location information to the appropriate Agency.
10. All existing light sources to be removed shall have their power cables removed up to the power source or properly terminated for future connection at the limits of demolition or as necessary to allow for construction of the proposed site improvements. Removal and termination of power cables shall be performed in accordance with local electric codes.
11. All existing utility meters to be removed shall be properly removed to allow for reuse. Any existing utility meters that are not to be reused as a part of this project shall be returned to the appropriate Agency.
12. All trenches and/or excavations resulting from the demolition of underground utilities, building foundations, etc., that are located within the 1 on 1 influence zone of proposed structures, paved areas and/or other areas subject to vehicular traffic shall be backfilled with MDOT Class III granular material (or better) to the proposed subgrade elevation. Backfill shall be placed using the controlled density method (12" maximum lifts, compacted to 95% maximum unit weight, Modified Proctor).



DESIGN: FAF	REVISION #	DATE	REVISION-DESCRIPTION	REVISION #	DATE	REVISION-DESCRIPTION
DRAFT: SES	1	02-21-18	REVISED PER TOWNSHIP REVIEW COMMENTS			
CHECK: CAG						

**ALDI FOOD MARKET #51  
HOWELL, MI**

**EXISTING  
SITE DATA &  
DEMOLITION NOTES**

CLIENT:  
ALDI Inc.  
2625 N. STOCKBRIDGE RD.  
WEBBERVILLE, MICHIGAN 48892  
(517) 521-3907

SCALE: NONE  
PROJECT No.: 9173290  
DWG NAME: 3290 EX  
ISSUED: FEB 21, 2018

**EX2**

**BENCHMARK**  
 DATUM BASED ON PREVIOUS BENCHMARK AS DEPICTED ON AS-BUILT PLANS PREPARED BY DESIRE INC., JOB NO. 81368, REVISED DATE DECEMBER 3, 2006.  
 DATUM AS DEPICTED = NGVD

**PRIMARY (OFF SITE)**  
 AT HOWELL, LIVINGSTON COUNTY, ON THE ANN ARBOR RAILROAD, 35 YARDS EAST OF THE NORTHEAST CORNER OF THE STATION; 60 YARDS WEST OF A HIGHWAY BRIDGE OVER THE TRACK; 7 YARDS NORTH OF THE WEST RAIL; A STANDARD TABLE STAMPED "G 105 1934" AND SET IN THE TOP OF A CONCRETE POST.  
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 REF: SEE ABOVE

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 CURRENTLY: LOCATED NEAR THE EASTERLY SIDE OF THE NORTHERLY ENTRANCE FROM GRAND RIVER TO "ALDI" STORE.  
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 FIELD BOOK 0465, PG. 43  
 POINT #201

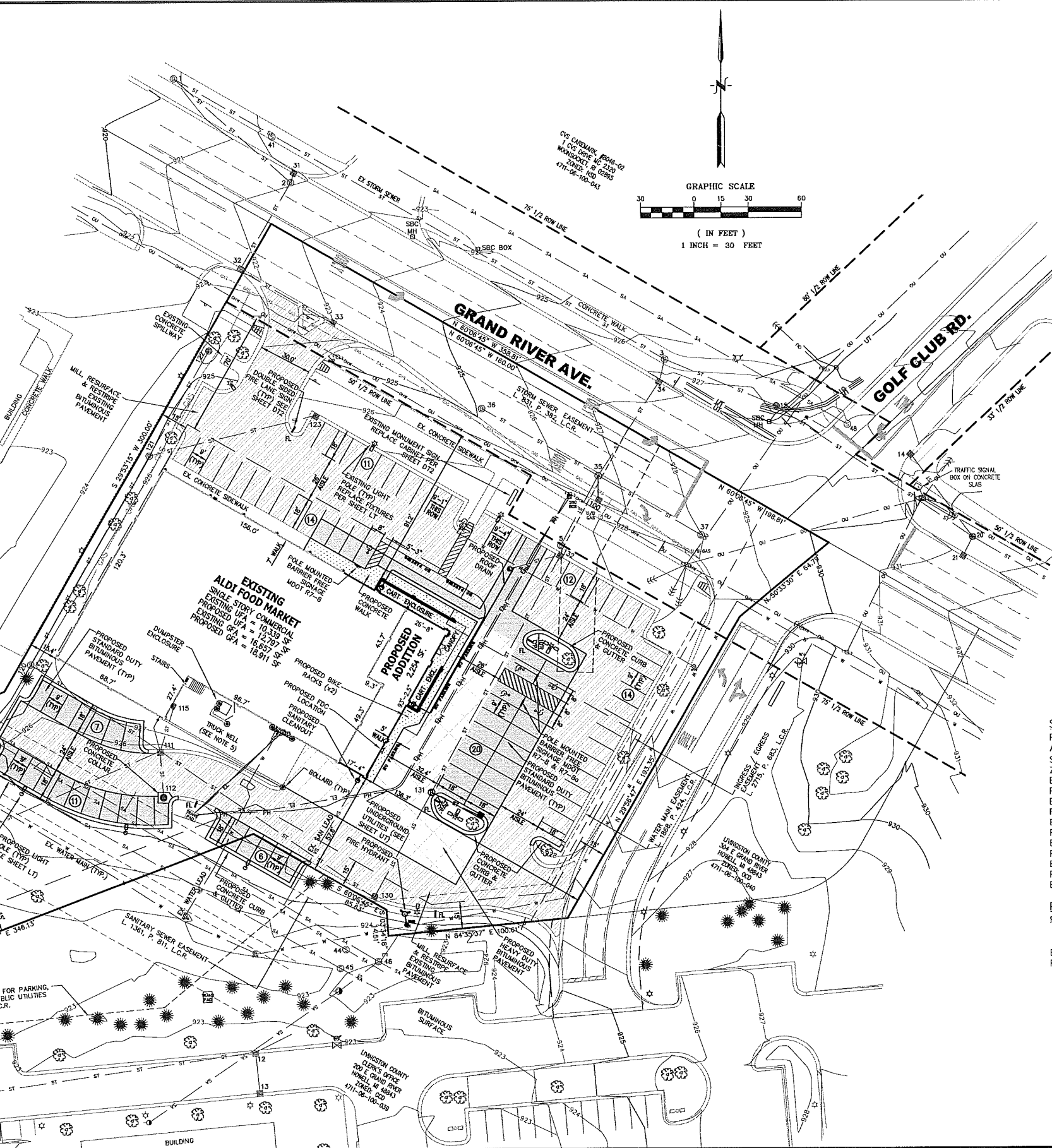
**BENCHMARK #200**  
 ARROW OF HYDRANT, LOCATED 574 FEET NORTHERLY OF THE NORTHEASTERLY BUILDING CORNER "ALDI."  
 ELEVATION = 930.09 (NGVD)  
 REF: POINT #200

**BENCHMARK #202**  
 NORTH 9M OF A SANITARY SEWER MANHOLE, LOCATED 1004 FEET SOUTHWESTERLY OF "ELIAS BROS. BIG BOY."  
 ELEVATION = 922.81 (NGVD)  
 REF: POINT #202

**BENCHMARK #203**  
 FINISH FLOOR OF NORTHEAST ENTRANCE OF "ALDI."  
 ELEVATION = 928.28 (NGVD)  
 REF: POINT #203

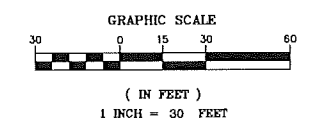
**SITE DEVELOPMENT NOTES:**

1. A Knox Box shall be provided on the exterior building wall adjacent to the front entrance in accordance with the Brighton Area Fire Authority standards and specifications.
2. The Contractor shall coordinate all site work with their Subcontractor(s), the appropriate Utility Providers and any necessary public utility work to ensure that all public utility work is performed in a timely manner and in a proper sequence in accordance with standard acceptable construction practices and to ensure that all public utility work is completed prior to the scheduled store re-opening date.
3. The Contractor shall coordinate all site work with their Subcontractor(s), the Sign Contractor(s) and the sign work to ensure that all sign work is performed in a timely manner and in a proper sequence in accordance with standard acceptable construction practices and to ensure that all sign work is completed prior to the scheduled store re-opening date.
4. The Contractor shall maintain the project site during the construction period. Maintenance shall include, but is not limited to, routine sweeping of the parking area and removal of trash and debris on an as needed basis and/or as directed by ALDI Inc.
5. The existing concrete pavement within the truck well shall be power washed. All existing joints and cracks shall be re-caulked with joint sealant in accordance with the Project Manual.
6. All barrier free ramps shall be constructed with detectable warnings in accordance with MDOT Standard Plan R-28, latest edition.
7. A variance to the right of way parking setback requirements was granted by the Genoa Township Zoning Board of Appeals in 2008 to permit a 4-foot parking setback to the Grand River Road right of way.
8. All parking spaces shall be double striped with 4" wide stripes spaced 18" apart in center in accordance with Genoa Township requirements.
9. The existing building is fire suppressed. The fire suppression system shall be modified and expanded to provide fire protection for the building addition in accordance with NFPA 13 and the Brighton Area Fire Authority standards and specifications.
10. The Contractor shall maintain fire truck and emergency vehicle access to the site during the construction period.



**LEGEND**

- MISC. STRUCTURE (AS LABELED)
- BOLLARD
- SIGN
- LIGHT BASE
- UTILITY MANHOLE (AS LABELED)
- UTILITY POLE W/GUY WIRE
- OVERHEAD UTILITY LINES (ELECTRIC/PHONE/CABLE)
- U/G LINES (ELECTRIC/PHONE/CABLE)
- GEODUCOUS TREE W/IDENTIFIER
- EX CONCRETE CURB
- PROP. CONCRETE CURB
- PROP. CONCRETE REVERSE CURB
- SANITARY SEWER MANHOLE W/IDENTIFIER
- SANITARY SEWER PIPE
- CLEAN OUT
- STORM WATER MANHOLE W/IDENTIFIER
- CATCH BASIN W/IDENTIFIER
- FLARED END SECTION
- CONTROL STRUCTURE
- EX STORM WATER DRAINAGE PIPE
- PROP. STORM WATER DRAINAGE PIPE
- HYDRANT
- WATER SHUT OFF
- WATER VALVE
- WATER VALVE BOX
- WATER MAIN
- GAS SHUT OFF
- U/G GAS
- EX 1' CONTOUR
- EX 5' CONTOUR
- PROP. STANDARD DUTY BIT. PAVEMENT
- PROP. MILL & RESURFACE BIT.
- PROP. HEAVY DUTY BIT. PAVEMENT
- PROP. CONCRETE WALK
- PROP. LIGHT POLES



**SITE DATA:**  
 PARCEL #4711-06-100-044  
 ADDRESS: 2260 E. GRAND RIVER AVE.  
 SITE AREA: GROSS ±3.14 AC. / NET ±2.66 AC.  
 ZONED: GCD-GENERAL COMMERCIAL DISTRICT  
 EXISTING USE: LIMITED ASSORTMENT GROCERY  
 PROPOSED USE: LIMITED ASSORTMENT GROCERY  
 EXISTING BUILDING COVERAGE: 14.4%  
 PROPOSED BUILDING COVERAGE: 16.3%  
 EXISTING LOT COVERAGE: 59.0%  
 PROPOSED LOT COVERAGE: 61.8%  
 EXISTING BITUMINOUS PAVEMENT AREA: 40,619 SF  
 PROPOSED BITUMINOUS PAVEMENT AREA: 41,988 SF  
 EXISTING CONCRETE TRUCK WELL AREA: 1,984 SF  
 PROPOSED PRIVATE CONCRETE SIDEWALK AREA: 3,791 SF  
 EXISTING PUBLIC CONCRETE SIDEWALK AREA: 947 SF

**PARKING CALCULATIONS:**  
 REQUIRED = 1 SPACE PER 250 SF GFA  
 = 18,911 SF / 250 SF PER SPACE  
 = 76 SPACES  
 EXISTING = 71 SPACES  
 PROPOSED = 95 SPACES

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 2183 PLESS DRIVE  
 BRIGHTON, MICHIGAN 48114

DESIGN: FAF	REVISION #	DATE	REVISION-DESCRIPTION	REVISION #	DATE	REVISION-DESCRIPTION
DRAFT: SES	1	02-21-18	REVISED PER TOWNSHIP REVIEW COMMENTS			
CHECK: CAG						

**ALDI FOOD MARKET #51**  
 HOWELL, MI

**SITE PLAN**

CLIENT: ALDI Inc.  
 2625 N. STOCKBRIDGE RD.  
 WEBBERVILLE, MICHIGAN 48892  
 (517) 521-3907

SCALE: NONE  
 PROJECT No.: 9173290  
 DWG NAME: 3290 SP  
 ISSUED: FEB 21, 2018

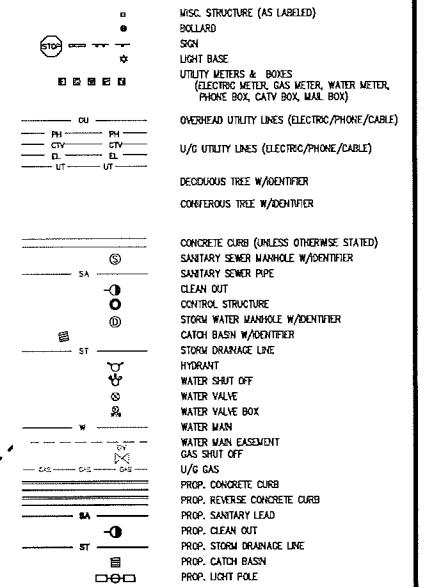
**SP**

EXISTING STRUCTURE INVENTORY

STORM MANHOLE #1 RM 920.89	CATCH BASIN #14 RM 928.13	CB-100 RM 926.60
STORM MANHOLE #2 RM 921.55	YARD BASIN #15 RM 926.12	CS-101 RM 922.67 15' SW RCP 919.92
STORM MANHOLE #3 RM 926.74	YARD BASIN #20 RM 930.43	CB-111 RM 925.08
STORM MANHOLE #5 RM 925.44 NORTHEAST 15' RCP 914.69 SOUTH 8' RCP 914.64	CATCH BASIN #21 RM 931.09	12' N PVC 920.58 12' NW HOPE-S 920.75 12' NE RCP 920.74 15' SE RCP 920.73 12' S RCP 921.00 15' SW RCP 920.45
CATCH BASIN #31 RM 921.77 SOUTHWEST 15' RCP	CATCH BASIN #22 RM 934.08	CB-112 RM 925.07 12' N RCP 921.08
CATCH BASIN #32 RM 921.69 NORTHEAST 15' RCP 916.29 SOUTHEAST 15' RCP 916.49	CATCH BASIN #23 RM 934.28	CB-115 RM 923.97 12' SW RCP 921.87
CATCH BASIN #33 RM 922.96 NORTHWEST 15' RCP 920.96	CATCH BASIN #24 RM 934.60	MH-120 RM 924.97 SOUTHEAST 15' HOPE 918.24 NORTHWEST 24' RCP 918.24
CATCH BASIN #34 RM 926.63 SOUTHWEST 15' RCP	CATCH BASIN #25 RM 933.14	CB-123 RM 926.02 12' SE HOPE-S 921.15 12' SE HOPE-S 921.11
MANHOLE #35 RM 926.70 NORTHWEST 12' RCP 920.60 NORTHEAST 15' RCP 914.10 SOUTHEAST 12' RCP 922.10 SOUTHWEST 15' RCP 914.25	SANITARY SEWER MANHOLE #41 RM 922.15	MH-121 RM 925.01 12' NE RCP 921.51 12' E RCP 921.49 12' SW HOPE-S 921.45
MANHOLE #36 RM 925.01 SOUTHEAST 12' RCP 921.66	SANITARY SEWER MANHOLE #42 RM 925.13	YB-122 RM 923.89 12' SW RCP 921.69
MANHOLE #37 RM 927.96 NORTHWEST 12' RCP 922.61	SANITARY SEWER MANHOLE #43 RM 924.83	CB-123 RM 926.02 12' W RCP 921.93
CATCH BASIN #11 RM 921.31 E-NORTHEAST 24' RCP 918.11 SOUTH 24' RCP 916.11 SOUTHEAST 8' PVC 913.61	SANITARY SEWER MANHOLE #44 RM 923.37	CB-130 RM 925.63 12' NE RCP 921.39 15' NW RCP 921.23
CATCH BASIN #12 RM 921.42 W-SOUTHWEST 24' RCP 917.37 E-NORTHEAST 24' RCP 917.22 S-SOUTHWEST 12' RCP 917.37	SANITARY SEWER MANHOLE #45 RM 923.37	CB-131 RM 928.60 12' NE RCP 921.67 12' SW RCP 921.58
CATCH BASIN #13 RM 921.09 N-NORTHEAST 12' RCP 917.94	SANITARY SEWER MANHOLE #46 RM 923.03	CB-132 RM 926.50 8' W PVC 922.51 12' SW RCP 922.16
	SANITARY SEWER MANHOLE #47 RM 928.05	

STORM SEWER CASTING SCHEDULE	
MANHOLE (MH):	EJW 1040Z-A-STORM
PAVEMENT CATCH BASIN (CB):	EJW 1040Z-M1
CURB LINE CATCH BASIN (CB):	EXISTING SALVAGED
8" DIA. ROOF DRAIN CLEANOUT (CO):	EJW 1578Z-A

LEGEND



BENCHMARK

DATUM BASED ON PREVIOUS BENCHMARK AS DEPICTED ON AS-BUILT PLANS PREPARED BY DESNE INC. JOB NO. 81369, REVISED DATE: DECEMBER 3, 2008. DATUM AS DEPICTED = NGVD

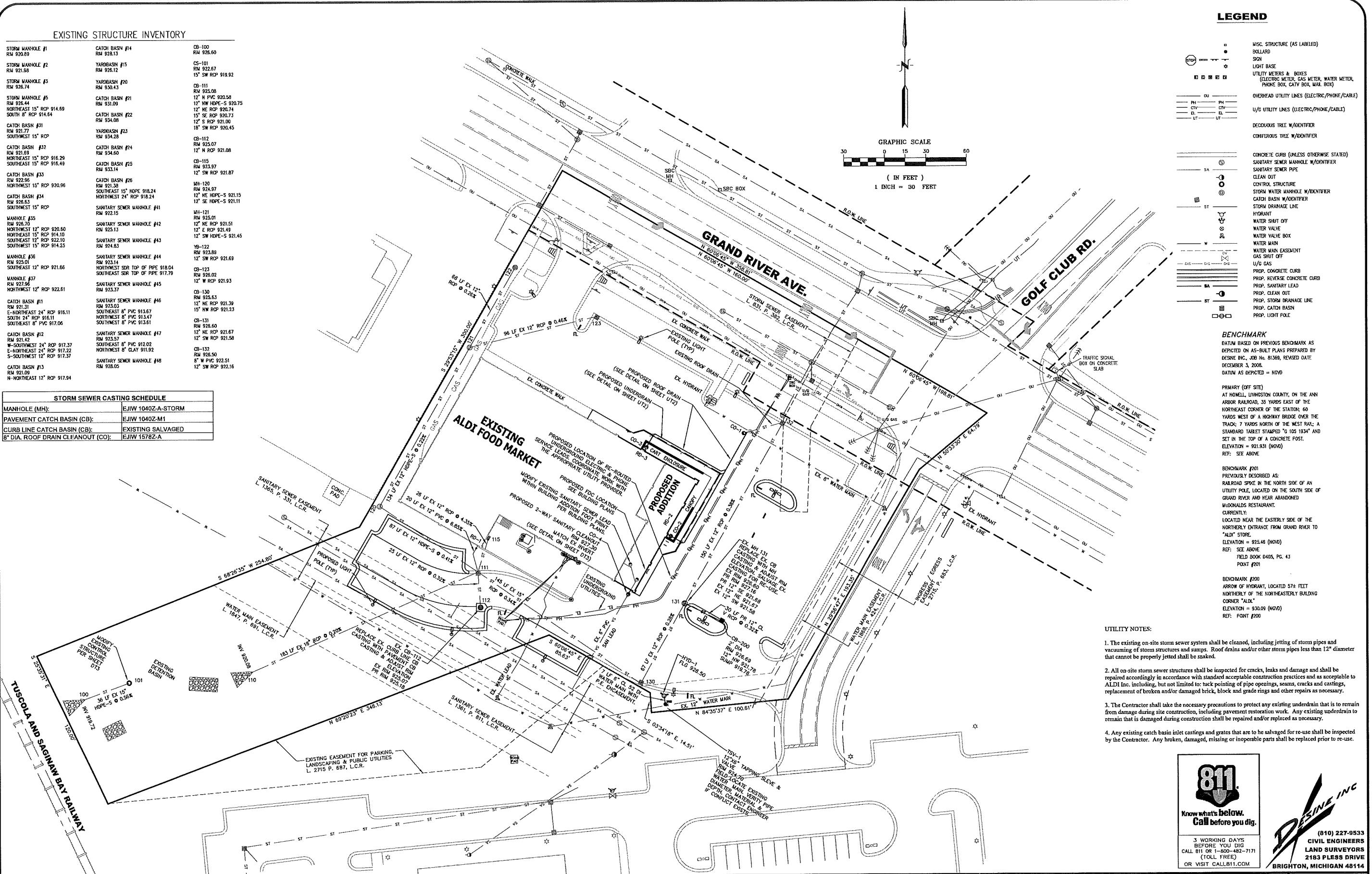
PRIMARY (OFF SITE) AT HOWELL, LIVINGSTON COUNTY, ON THE ANN ARBOR RAILROAD, 35 YARDS EAST OF THE NORTHEAST CORNER OF THE STATION, 60 YARDS WEST OF A HIGHWAY BRIDGE OVER THE TRACK, 7 YARDS NORTH OF THE WEST RAIL; A STANDARD TABLE STAMPED "S 105 1934" AND SET IN THE TOP OF A CONCRETE POST. ELEVATION = 921.931 (NGVD) REF: SEE ABOVE

BENCHMARK #201 PREVIOUSLY DESCRIBED AS: RAILROAD SPIKE IN THE NORTH SIDE OF AN UTILITY POLE, LOCATED ON THE SOUTH SIDE OF GRAND RIVER AND NEAR ABANDONED MCDONALD'S RESTAURANT. CURRENTLY: LOCATED NEAR THE EASTERLY SIDE OF THE NORTHERLY ENTRANCE FROM GRAND RIVER TO "ALDI" STORE. ELEVATION = 925.46 (NGVD) REF: SEE ABOVE FIELD BOOK 0405, PG. 43 POINT #201

BENCHMARK #200 ARROW OF HYDRANT, LOCATED 574 FEET NORTHERLY OF THE NORTHEASTERLY BUILDING CORNER "ALDI." ELEVATION = 930.09 (NGVD) REF: POINT #200

UTILITY NOTES:

- The existing on-site storm sewer system shall be cleaned, including jetting of storm pipes and vacuuming of storm structures and sumps. Roof drains and/or other storm pipes less than 12" diameter that cannot be properly jetted shall be soaked.
- All on-site storm sewer structures shall be inspected for cracks, leaks and damage and shall be repaired accordingly in accordance with standard acceptable construction practices and as acceptable to ALDI Inc. including, but not limited to: tuck pointing of pipe openings, seams, cracks and castings, replacement of broken and/or damaged brick, block and grade rings and other repairs as necessary.
- The Contractor shall take the necessary precautions to protect any existing underdrain that is to remain from damage during site construction, including pavement restoration work. Any existing underdrain to remain that is damaged during construction shall be repaired and/or replaced as necessary.
- Any existing catch basin inlet castings and grates that are to be salvaged for re-use shall be inspected by the Contractor. Any broken, damaged, missing or inoperable parts shall be replaced prior to re-use.



DESIGN: FAF	REVISION #	DATE	REVISION-DESCRIPTION	REVISION #	DATE	REVISION-DESCRIPTION
DRAFT: SES	1	02-21-18	REVISED PER TOWNSHIP REVIEW COMMENTS			
CHECK: CAG						

ALDI FOOD MARKET #51  
HOWELL, MI

UTILITY PLAN

CLIENT:  
ALDI Inc.  
2625 N. STOCKBRIDGE RD.  
WEBBERVILLE, MICHIGAN 48892  
(517) 521-3907

SCALE: NONE  
PROJECT No.: 9173290  
DWG NAME: 3290 UT  
ISSUED: FEB 21, 2018

ALDI FOOD MARKET #51 DRAINAGE AREA CALCULATIONS

Table with 6 columns: Structure, Pavement, Building, Lawn, \*C\* Factor, C x A. Rows include RD-3, RD-2, RD-1, 132, 131, 130, 123, 122, 121, 120, 115, 112, 111, BASIN, and TOTAL.

Table with 6 columns: Structure, Pavement, Building, Lawn, \*C\* Factor, C x A. Rows include RD-3, RD-2, RD-1, 200, 132, 131, 130, 123, 122, 121, 120, 115, 112, 111, BASIN, and TOTAL.

Project: ALDI FOOD MARKET #51 REMODEL & EXPANSION Design Criteria: 10 year event (I = 175ft + 25) RCP (n=0.013) \*HDPE-S (n=0.010) \*\*PVC (n=0.013)

Main pipe layout table with columns: From MH# CB# FES#, To MH# CB# FES#, Inc. Acres, Ekv. Area 100% CA, Total Area 100% CA, T Time Min., I Inch Per Hour, Q (CIA) c.f.s., Dia. of pipe inch, Slope pipe %, Slope H.G. %, Length of line ft., Vel. Flow full ft./sec., Time of flow min., Cap of pipe c.f.s., H.G. Elev. upper end, Ground Elev. Upper end, Lower end, Invert Elev. Upper end, Lower end. Includes rows for RD 3, RD 2, WYE 1, CO 1, EX 132, EX 131, EX 130, EX 123, EX 122, EX 121, EX 120, EX RD 1, EX 115, EX 112, EX 111, and OUTLET PIPE SIZED TO CARRY 100 YEAR STORM EVENT (I = 275ft + 25).

Project: # 173290 Date: 2/20/2018

ALDI FOOD MARKET #51 100 YEAR STORM DETENTION CALCULATIONS

Table with 7 columns: 1, 2, 3, 4, 5, 6, 7. Rows include Duration (Minutes), Intensity (100-yr Storm) (in/hr), Col. #2 x Col. #3 (Inches), Inflow Volume Col. #4 x K1 (Cu. Ft.), Outflow Volume Col. #2 x Qo (Cu. Ft.), and Storage Volume Col. #5 - Col. #6 (Cu. Ft.).

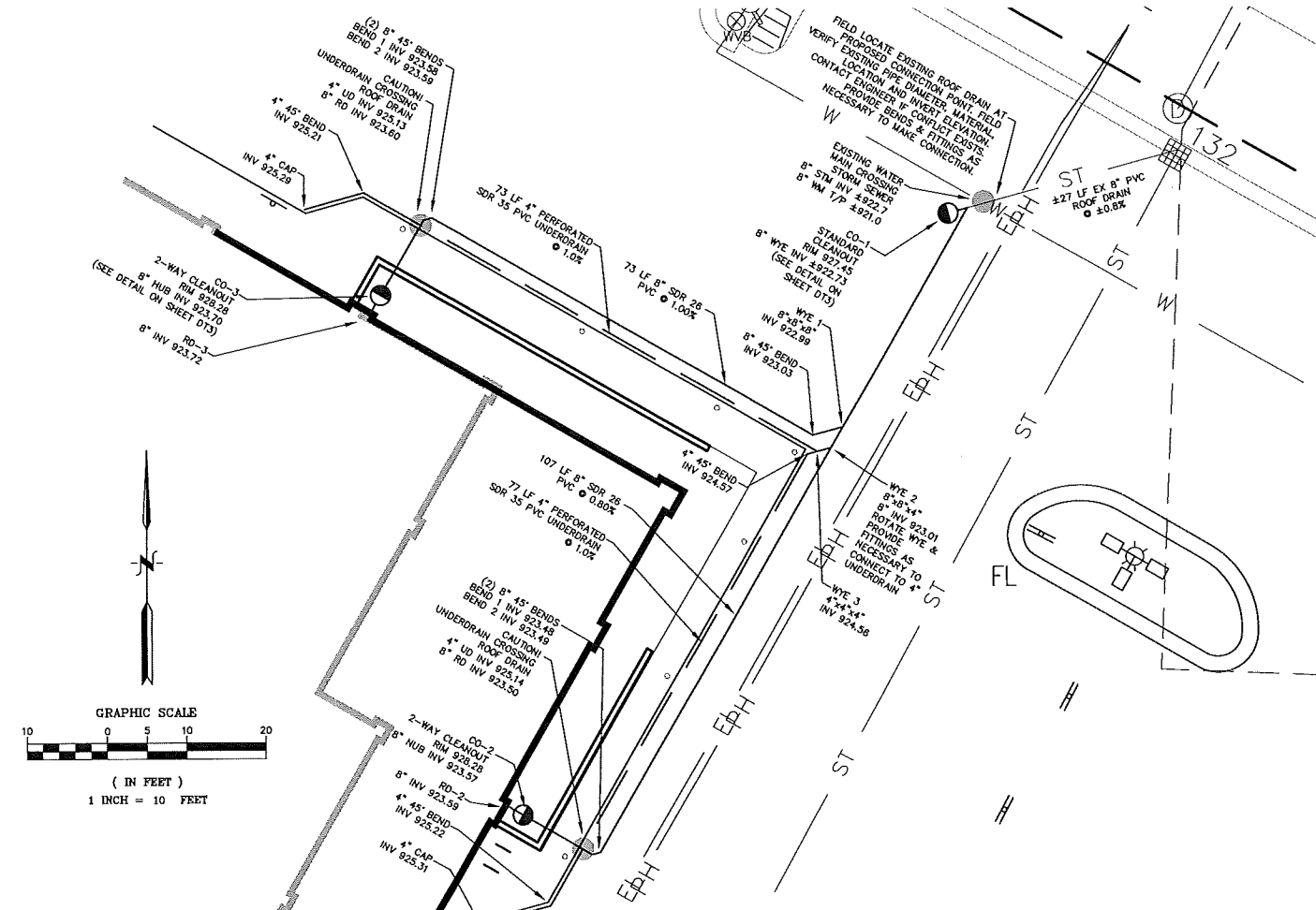
Note: Figures in Columns (3) and (4) are valid where the intensity is computed by the formula I = 275 / (t + 25) (i.e. 100-yr Curve); appropriate revisions shall be made for geographical areas where this formula does not apply. Allowable outflow rate Qo to be one of the following: Case 1: Qo = capacity of existing discharge conduit or channel. Case 2: Qo = q \* A where q = Permissible discharge rate per acre of tributary area = 0.2 cfs/Acre

ALDI FOOD MARKET #51 DETENTION VOLUME CALCULATIONS

Table with 6 columns: Elevation, Area (SF), Average Area (SF), Depth (FT), Volume (CF), Cumulative Volume (CF). Rows show data for elevations 922.75 down to 920.

Table with 6 columns: Elevation, Area (SF), Average Area (SF), Depth (FT), Volume (CF), Cumulative Volume (CF). Rows show data for elevations 921.5 down to 920.

ALDI Food Market #51 Remodel & Expansion Control Structure Calculations CS-101: Tributary Area: A = 2.16 Acres; Compound Runoff Coefficient: C = 0.67; Office Flow Coefficient: c = 0.6; Allowable Outflow Rate: Qa = 0.43 CFS; 100 Year Flood Volume: V100 = 16651 CF; Bankfull Flood Volume = 8160 x A x C; First Flush Volume = 1815 x A x C; Low Water Level: LWL = 919.94; First Flush Elevation: XF = 920.54; Bankfull Flood Elevation: Xbf = 922.13; 100 Year Flood Elevation: X100 = 922.74; (Use available high water elevation for X100) HWL = 922.75; FIRST FLUSH: Qff = Vff \* (1 / 24 hrs) \* (1 / 3600 sec) = 0.0304 CFS; Hff = Xff - LWL = 0.60 FT; Afb = Qff / (c \* SQRT(2 \* 32.2 \* Hff)) = 0.0682 SF; Nff = Afb / 0.0055 = 1.46 1" Holes; Use Nff = 1 1" Holes at Elevation = 919.94; BANKFULL FLOOD: H = Xbf - LWL = 2.19 FT; Qbf = c \* Nbf \* 0.0055 \* SQRT(2 \* 32.2 \* h) = 0.0392 CFS; Vpneeded = Qbf \* 24 hrs \* (3600 sec / 1 hr) = 3386.04 CF; Vneeded = Vbf - Vpneeded = 8423.11 CF; Qbf = Vneeded \* (1 / 24 hrs) \* (1 / 3600 sec) = 0.0975 CFS; Hbf = Xbf - Xff = 1.59 FT; Afb = Qbf / (c \* SQRT(2 \* 32.2 \* Hbf)) = 0.0161 SF; Nbf = Afb / 0.0055 = 2.92 1" Holes; Use Nbf = 2 1" Holes at Elevation = 920.54; 100 YEAR FLOOD: Qf + Qbf = (c \* Nff \* 0.0055 \* SQRT(2 \* 32.2 \* (X100 - LWL))) + (c \* Nbf \* 0.0055 \* SQRT(2 \* 32.2 \* (X100 - Xff))) = 0.1231 CFS; Q100needed = Qa - (Qff + Qbf) = 0.3059 CFS; H100 = X100 - Xbf = 0.62 FT; A100needed = Q100needed / (c \* SQRT(2 \* 32.2 \* H100)) = 0.0809 SF; N100needed = A100needed / 0.0218 = 3.71 2" Holes; Use N100 = 3 2" Holes at Elevation = 922.13



ROOF DRAIN & UNDERDRAIN DETAIL PLAN VIEW SCALE: 1" = 10'

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Revision table with columns: REVISION #, DATE, REVISION-DESCRIPTION, REVISION #, DATE, REVISION-DESCRIPTION. Row 1: 1, 02-21-18, REVISED PER TOWNSHIP REVIEW COMMENTS.

ALDI FOOD MARKET #51 HOWELL, MI STORM WATER MANAGEMENT CALCULATIONS

CLIENT: ALDI Inc. 2625 N. STOCKBRIDGE RD. WEBBERVILLE, MICHIGAN 48892 (517) 521-3907 SCALE: NONE PROJECT No.: 9173290 OWG NAME: 3290 UT ISSUED: FEB 21, 2018 UT2

**BENCHMARK**  
 DATUM BASED ON PREVIOUS BENCHMARK AS  
 DEPICTED ON AS-BUILT PLANS PREPARED BY  
 DESINE INC., JOB No. 81369, REVISED DATE  
 DECEMBER 3, 2008.  
 DATUM AS DEPICTED = NGVD

**PRIMARY (OFF SITE)**  
 AT HOWELL, LIVINGSTON COUNTY, ON THE ANN  
 ARBOR RAILROAD, 35 YARDS EAST OF THE  
 NORTHEAST CORNER OF THE STATION, 60  
 YARDS WEST OF A HIGHWAY BRIDGE OVER THE  
 TRACK, 7 YARDS NORTH OF THE WEST RAIL, A  
 STANDARD TABLE STAMPED "O 105 1934" AND  
 SET IN THE TOP OF A CONCRETE POST.  
 ELEVATION = 921.931 (NGVD)  
 REF: SEE ABOVE

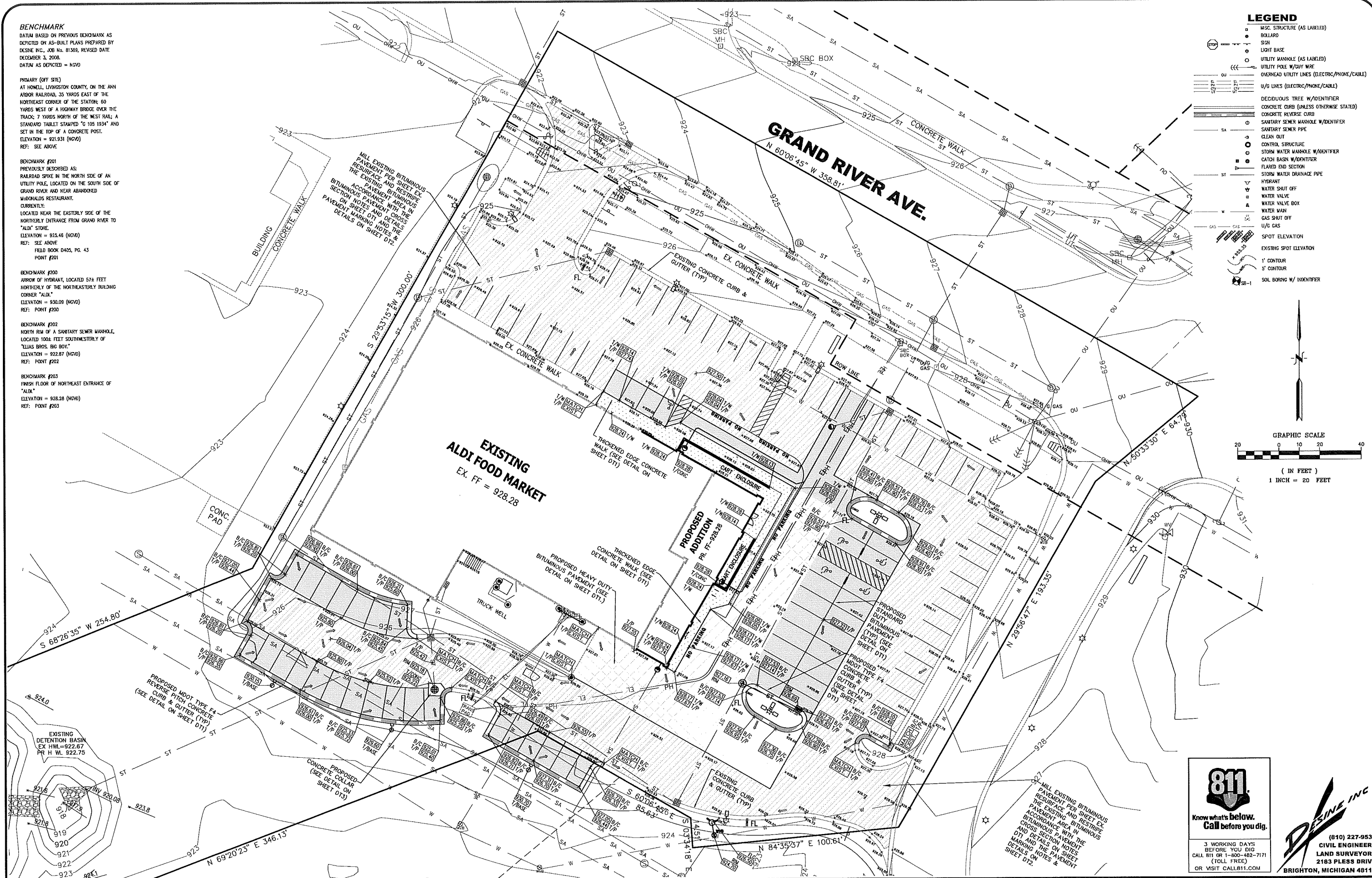
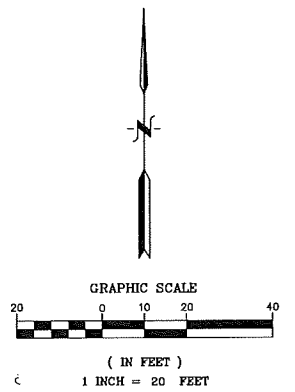
**BENCHMARK #201**  
 PREVIOUSLY DESCRIBED AS:  
 RAILROAD SPIKE IN THE NORTH SIDE OF AN  
 UTILITY POLE, LOCATED ON THE SOUTH SIDE OF  
 GRAND RIVER AND NEAR ABANDONED  
 MCDONALD'S RESTAURANT.  
 CURRENTLY:  
 LOCATED NEAR THE EASTERLY SIDE OF THE  
 NORTHERLY ENTRANCE FROM GRAND RIVER TO  
 "ALDI" STORE.  
 ELEVATION = 923.46 (NGVD)  
 REF: SEE ABOVE  
 FIELD BOOK 0425, PG. 43  
 POINT #201

**BENCHMARK #200**  
 ARROW OF HYDRANT, LOCATED 574 FEET  
 NORTHERLY OF THE NORTHEASTLY BUILDING  
 CORNER "ALDI."  
 ELEVATION = 930.09 (NGVD)  
 REF: POINT #200

**BENCHMARK #202**  
 NORTH RM OF A SANITARY SEWER MANHOLE,  
 LOCATED 1006 FEET SOUTHWESTERLY OF  
 "TILAS BROS. BIG BOY".  
 ELEVATION = 922.87 (NGVD)  
 REF: POINT #202

**BENCHMARK #203**  
 FINISH FLOOR OF NORTHEAST ENTRANCE OF  
 "ALDI."  
 ELEVATION = 928.28 (NGVD)  
 REF: POINT #203

- LEGEND**
- MSC. STRUCTURE (AS LABELED)
  - BOLLARD
  - SIGN
  - LIGHT BASE
  - UTILITY MANHOLE (AS LABELED)
  - UTILITY POLE W/JOY WIRE
  - OVERHEAD UTILITY LINES (ELECTRIC/PHONE/CABLE)
  - U/G LINES (ELECTRIC/PHONE/CABLE)
  - DECIDUOUS TREE W/IDENTIFIER
  - CONCRETE CURB (UNLESS OTHERWISE STATED)
  - CONCRETE REVERSE CURB
  - SANITARY SEWER MANHOLE W/IDENTIFIER
  - SANITARY SEWER PIPE
  - CLEAR CUT
  - CONTROL STRUCTURE
  - STORM WATER MANHOLE W/IDENTIFIER
  - CATCH BASIN W/IDENTIFIER
  - FLARED END SECTION
  - STORM WATER DRAINAGE PIPE
  - HYDRANT
  - WATER SHUT OFF
  - WATER VALVE
  - WATER VALVE BOX
  - WATER WASH
  - GAS SHUT OFF
  - U/G GAS
  - SPOT ELEVATION
  - EXISTING SPOT ELEVATION
  - 1' CONTOUR
  - 5' CONTOUR
  - SOL BORING W/ IDENTIFIER



DESIGN:FAF	REVISION #	DATE	REVISION-DESCRIPTION	REVISION #	DATE	REVISION-DESCRIPTION
DRAFT: SES	1	02-21-18	REVISED PER TOWNSHIP REVIEW COMMENTS			
CHECK: CAG						

**ALDI FOOD MARKET #51**  
 HOWELL, MI

**GRADING AND PAVING PLAN**

CLIENT:  
 ALDI Inc.  
 2625 N. STOCKBRIDGE RD.  
 WEBBERVILLE, MICHIGAN 48892  
 (517) 521-3907

SCALE: 1"=20'  
 PROJECT No.: 9173290  
 DWG NAME: 3290 GR  
 ISSUED: FEB 21, 2018

**GR**

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 CIVIL ENGINEERS  
 LAND SURVEYORS  
 2183 PLESS DRIVE  
 BRIGHTON, MICHIGAN 48114

**BENCHMARKS:**

DATUM BASED ON PREVIOUS BENCHMARK AS DEPICTED ON AS-BUILT PLANS PREPARED BY DESINE INC., JOB No. B1389, REVISED DATE DECEMBER 3, 2008.  
 DATUM AS DEPICTED = NGVD

PRIMARY (OFF SITE)  
 AT HOWELL, LIVINGSTON COUNTY, ON THE ANN ARBOR RAILROAD, 35 YARDS EAST OF THE NORTHEAST CORNER OF THE STATION; 60 YARDS WEST OF A HIGHWAY BRIDGE OVER THE TRACK; 7 YARDS NORTH OF THE WEST RAIL; A STANDARD TABLET STAMPED "G 105 1934" AND SET IN THE TOP OF A CONCRETE POST.  
 ELEVATION = 921.931 (NGVD)  
 REF: SEE ABOVE

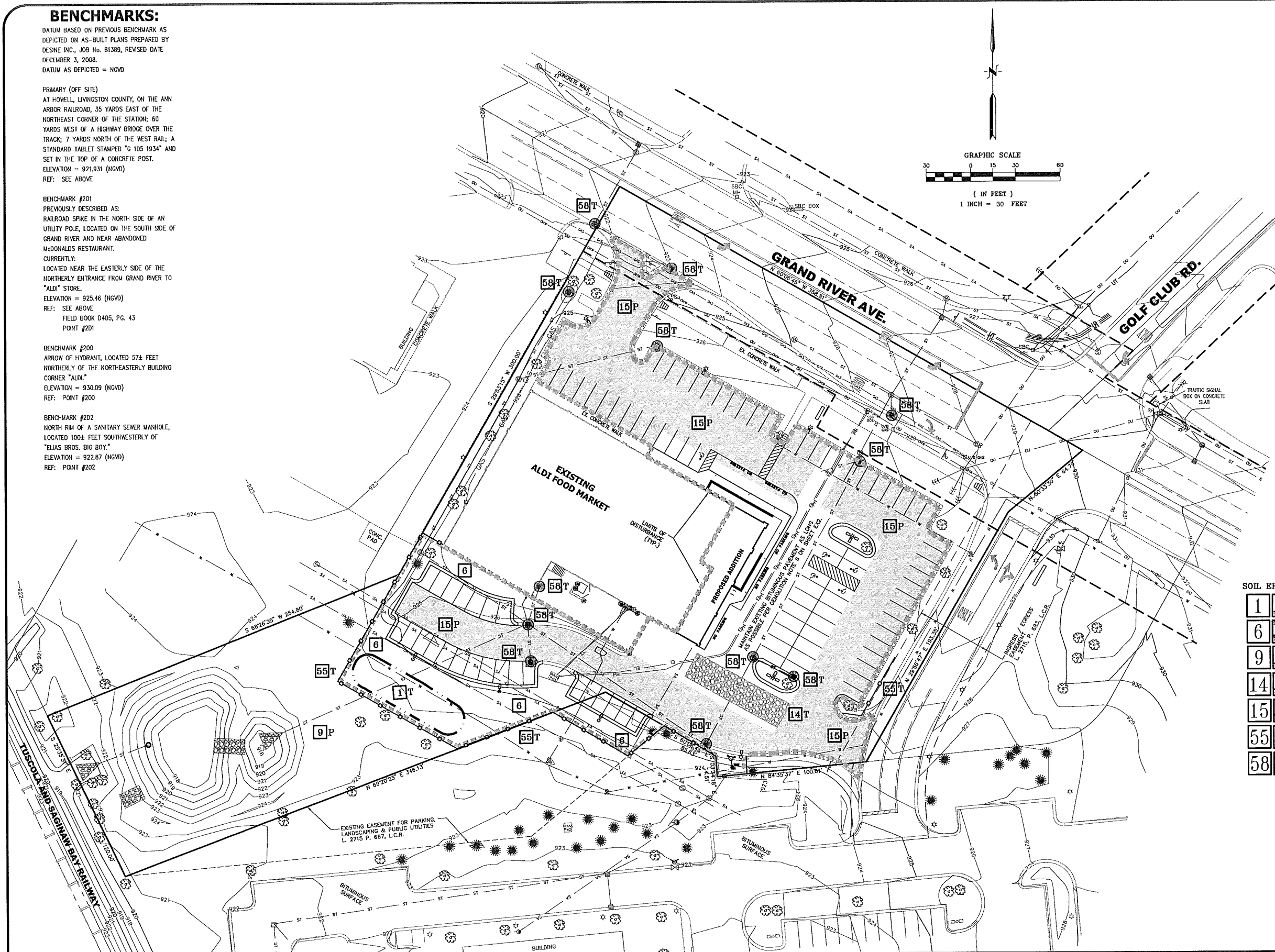
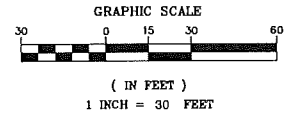
BENCHMARK #201  
 PREVIOUSLY DESCRIBED AS:  
 RAILROAD SPIKE IN THE NORTH SIDE OF AN UTILITY POLE, LOCATED ON THE SOUTH SIDE OF GRAND RIVER AND NEAR ABANDONED McDONALDS RESTAURANT.  
 CURRENTLY:  
 LOCATED NEAR THE EASTERLY SIDE OF THE NORTHERLY ENTRANCE FROM GRAND RIVER TO "ALDI" STORE.  
 ELEVATION = 925.46 (NGVD)  
 REF: SEE ABOVE  
 FIELD BOOK D405, PG. 43  
 POINT #201

BENCHMARK #200  
 ARROW OF HYDRANT, LOCATED 57± FEET NORTHERLY OF THE NORTHEASTERLY BUILDING CORNER "ALDI."  
 ELEVATION = 930.09 (NGVD)  
 REF: POINT #200

BENCHMARK #202  
 NORTH RIM OF A SANITARY SEWER MANHOLE, LOCATED 100± FEET SOUTHWESTERLY OF "ELIAS BROS. BIG BOY."  
 ELEVATION = 922.87 (NGVD)  
 REF: POINT #202

**LEGEND**

- MISC. STRUCTURE (AS LABELED)
- BOLLARD
- ☆ SIGN
- ☆ LIGHT BASE
- UTILITY MANHOLE (AS LABELED)
- UTILITY POLE W/DAY WIRE
- OVERHEAD UTILITY LINES (ELECTRIC/PHONE/CABLE)
- U/G LINES (ELECTRIC/PHONE/CABLE)
- DECIDUOUS TREE W/IDENTIFIER
- EX CONCRETE CURB (UNLESS OTHERWISE STATED)
- SANITARY SEWER MANHOLE W/IDENTIFIER
- SANITARY SEWER PIPE
- CLEAN OUT
- CONTROL STRUCTURE
- STORM WATER MANHOLE W/IDENTIFIER
- CATCH BASIN W/IDENTIFIER
- FLARED END SECTION
- EX STORM WATER DRAINAGE PIPE
- HYDRANT
- WATER SHUT OFF
- WATER VALVE
- WATER VALVE BOX
- WATER MAIN
- GAS SHUT OFF
- U/G GAS
- 1' CONTOUR
- 5' CONTOUR



**SOIL EROSION AND SEDIMENTATION CONTROL MEASURES**

1	STRIPPER & SLOPPING TRENCH	TRENCH MAY BE STABILIZED BEFORE WORK IS SET AS A CAUTION. PEOPLE SHOULD BE TEMPORARILY STOPPED.
6	STRIPPER WITH MULCH MAT OR WOVEN	INCLUDES ESTABLISHMENT OF VEGETATION COVER. OPTIONS FOR BROADCASTING WITH LOW VELOCITY. ONLY PLACED IN SMALL QUANTITIES BY EXPERIENCED PERSONNEL. SPREAD MULCH PROTECTED TRENCH BED.
9	VEGETATIVE WATER SWAP	SLOWS RUNOFF VELOCITY. FILLS SEDIMENT FROM RUNOFF. REDUCES VOLUME OF RUNOFF ON SLOPES.
14	AGGREGATE COVER	STABILIZES SOIL SURFACE. HAS WINDING DESIGN. PLAYS CONSTRUCTION OFFSITE IN AERATED MEDIA. MAY BE USED AS FINEST OF FINEST BEFORE CONSTRUCTION OF PAVED AREAS.
15	FRAG	PROTECTS AREAS WHICH COULD OTHERWISE BE PROTECTED, BUT INCURRES RUNOFF, VOLUME AND VELOCITY. PROTECTS SURFACE WILL HELP SLOW VELOCITY.
55	DEBRIS NET FENCE	USES DEBRIS NETS AND PILES OR PALES. MAY BE CONSTRUCTED ON PREPARED. NOT TO CONSTRUCT AND LOCATE AS NECESSARY.
58	NET SEWMENT FIBER	USES PREPARED RESTURABLE SACS. FILLS SEDIMENT FROM RUNOFF AT GROUND BLOW NEST. LAST TO INSTALL AND REMOVE.

T = TEMPORARY P = PERMANENT  
 TOTAL DISTURBED AREA 1.32 AC.

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 LAND SURVEYORS  
 2183 PLESS DRIVE  
 BRIGHTON, MICHIGAN 48114

DESIGN: FAF	REVISION #	DATE	REVISION-DESCRIPTION	REVISION #	DATE	REVISION-DESCRIPTION
DRAFT: SES	1	02-21-18	REVISED PER TOWNSHIP REVIEW COMMENTS			
CHECK: CAG						

**ALDI FOOD MARKET #51**  
 HOWELL, MI

**SOIL EROSION AND SEDIMENTATION CONTROL PLAN**

CLIENT:  
 ALDI Inc.  
 2825 N. STOCKBRIDGE RD.  
 WEBBERVILLE, MICHIGAN 48892  
 (517) 521-3907

SCALE: 1"=30'  
 PROJECT No.: 9173290  
 DWG NAME: 3290 SE  
 ISSUED: FEB 21, 2018

**SE1**





LANDSCAPING CALCULATIONS

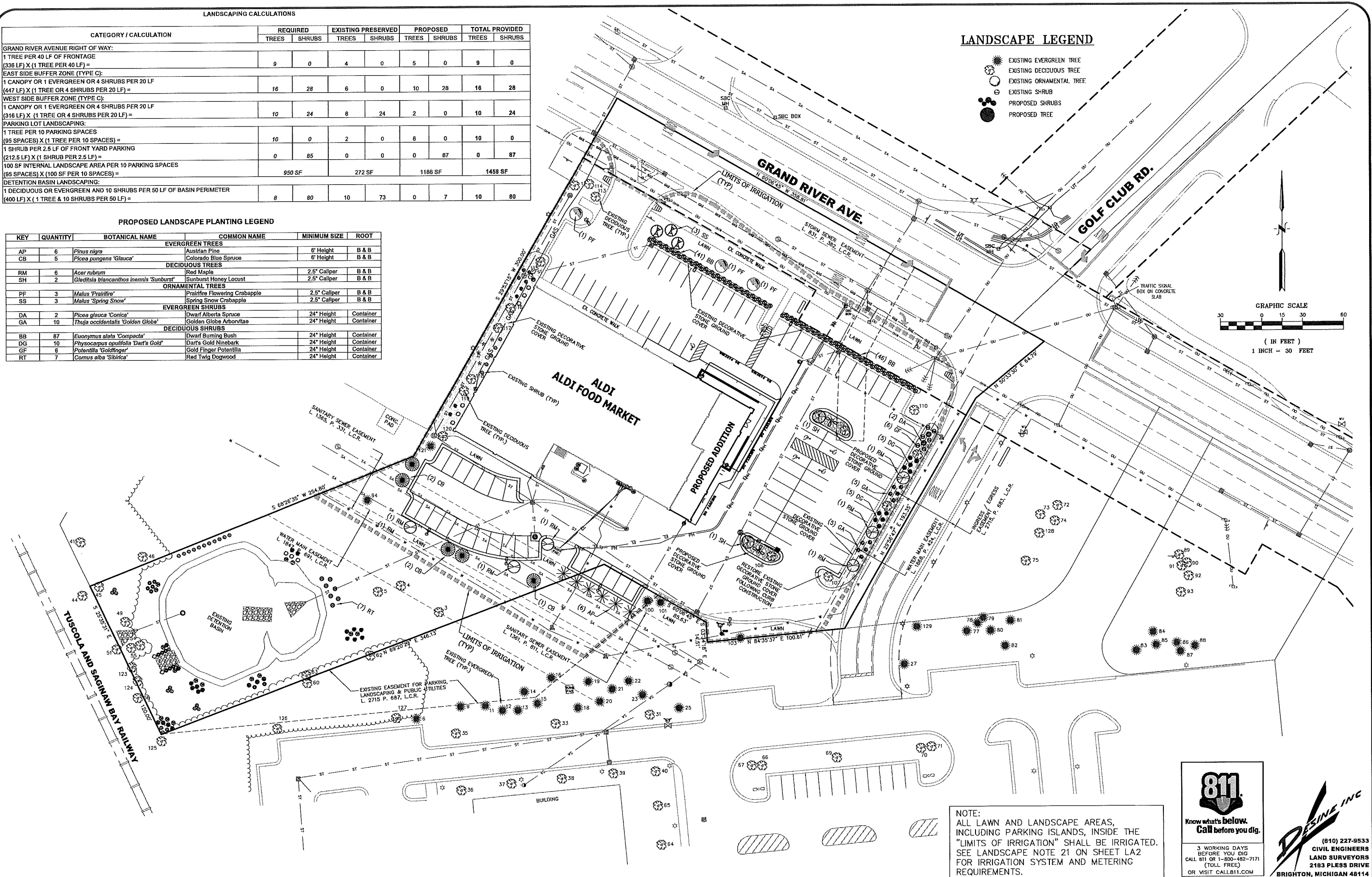
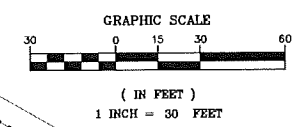
CATEGORY / CALCULATION	REQUIRED		EXISTING PRESERVED		PROPOSED		TOTAL PROVIDED	
	TREES	SHRUBS	TREES	SHRUBS	TREES	SHRUBS	TREES	SHRUBS
GRAND RIVER AVENUE RIGHT OF WAY:								
1 TREE PER 40 LF OF FRONTAGE (336 LF) X (1 TREE PER 40 LF) =	9	0	4	0	5	0	9	0
EAST SIDE BUFFER ZONE (TYPE C):								
1 CANOPY OR 1 EVERGREEN OR 4 SHRUBS PER 20 LF (447 LF) X (1 TREE OR 4 SHRUBS PER 20 LF) =	16	28	6	0	10	28	16	28
WEST SIDE BUFFER ZONE (TYPE C):								
1 CANOPY OR 1 EVERGREEN OR 4 SHRUBS PER 20 LF (316 LF) X (1 TREE OR 4 SHRUBS PER 20 LF) =	10	24	8	24	2	0	10	24
PARKING LOT LANDSCAPING:								
1 TREE PER 10 PARKING SPACES (85 SPACES) X (1 TREE PER 10 SPACES) =	10	0	2	0	8	0	10	0
1 SHRUB PER 2.5 LF OF FRONT YARD PARKING (212.5 LF) X (1 SHRUB PER 2.5 LF) =	0	85	0	0	0	87	0	87
100 SF INTERNAL LANDSCAPE AREA PER 10 PARKING SPACES (85 SPACES) X (100 SF PER 10 SPACES) =	950 SF		272 SF		1186 SF		1458 SF	
DETENTION BASIN LANDSCAPING:								
1 DECIDUOUS OR EVERGREEN AND 10 SHRUBS PER 50 LF OF BASIN PERIMETER (400 LF) X (1 TREE & 10 SHRUBS PER 50 LF) =	8	80	10	73	0	7	10	80

PROPOSED LANDSCAPE PLANTING LEGEND

KEY	QUANTITY	BOTANICAL NAME	COMMON NAME	MINIMUM SIZE	ROOT
<b>EVERGREEN TREES</b>					
AP	6	<i>Pinus nigra</i>	Austrian Pine	6' Height	B & B
CB	5	<i>Picea pungens 'Glauca'</i>	Colorado Blue Spruce	6' Height	B & B
<b>DECIDUOUS TREES</b>					
RM	6	<i>Acer rubrum</i>	Red Maple	2.5" Caliper	B & B
SH	2	<i>Gleditsia triancanthos inermis 'Sunburst'</i>	Sunburst Honey Locust	2.5" Caliper	B & B
<b>ORNAMENTAL TREES</b>					
PF	3	<i>Malus 'Praediff'</i>	Prairie Flowering Crabapple	2.5" Caliper	B & B
SS	3	<i>Malus 'Spring Snow'</i>	Spring Snow Crabapple	2.5" Caliper	B & B
<b>EVERGREEN SHRUBS</b>					
DA	2	<i>Picea glauca 'Conica'</i>	Dwarf Alberta Spruce	24" Height	Container
GA	10	<i>Thuja occidentalis 'Golden Globe'</i>	Golden Globe Arborvitae	24" Height	Container
<b>DECIDUOUS SHRUBS</b>					
BB	87	<i>Euonymus alata 'Compacta'</i>	Dwarf Burning Bush	24" Height	Container
DG	10	<i>Physocarpus opulifolius 'Dart's Gold'</i>	Dart's Gold Ninebark	24" Height	Container
GF	6	<i>Potentilla 'Goldfinger'</i>	Gold Finger Potentilla	24" Height	Container
RT	7	<i>Cornus alba 'Sibirica'</i>	Red Twig Dogwood	24" Height	Container

LANDSCAPE LEGEND

- EXISTING EVERGREEN TREE
- EXISTING DECIDUOUS TREE
- EXISTING ORNAMENTAL TREE
- EXISTING SHRUB
- PROPOSED SHRUBS
- PROPOSED TREE



NOTE:  
ALL LAWN AND LANDSCAPE AREAS,  
INCLUDING PARKING ISLANDS, INSIDE THE  
"LIMITS OF IRRIGATION" SHALL BE IRRIGATED.  
SEE LANDSCAPE NOTE 21 ON SHEET LA2  
FOR IRRIGATION SYSTEM AND METERING  
REQUIREMENTS.

DESIGN: FAF	REVISION #	DATE	REVISION-DESCRIPTION	REVISION #	DATE	REVISION-DESCRIPTION
DRAFT: SES	1	02-21-18	REVISED PER TOWNSHIP REVIEW COMMENTS			
CHECK: CAG						

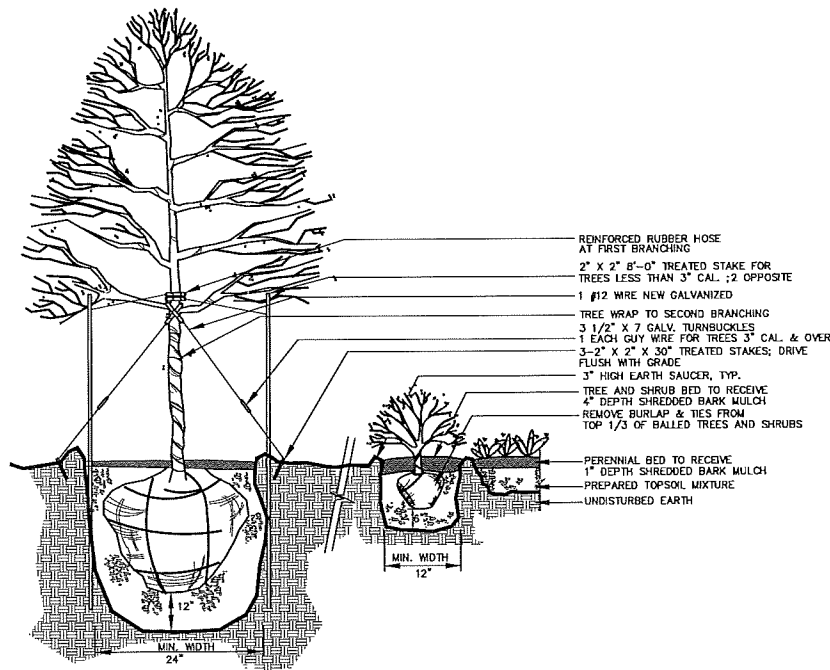
ALDI FOOD MARKET #51  
HOWELL, MI

LANDSCAPE PLAN

CLIENT:  
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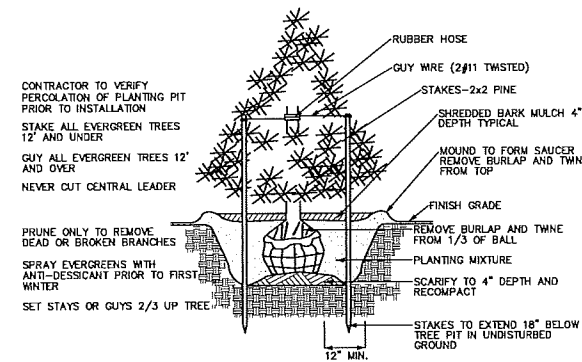
SCALE: 1"=30'  
PROJECT No.: 9173290  
DWG NAME: 3290 LA  
ISSUED: FEB 21, 2018

LA1



**TYPICAL TREE/SHRUB/PERENNIAL PLANTING**

NOT TO SCALE



**TYPICAL EVERGREEN TREE PLANTING**

NOT TO SCALE

**MAINTENANCE-FREE BIKE RACKS**

Easy to install, environmentally safe, nontoxic, and available in unlimited colors in matte or high-gloss finish. S&G Bike Racks are built to withstand the rigors of hard outdoor use yet aesthetically pleasing in any environment. Our bike racks are made from structural grade steel pipe coated with durable, weather-resistant PVC.

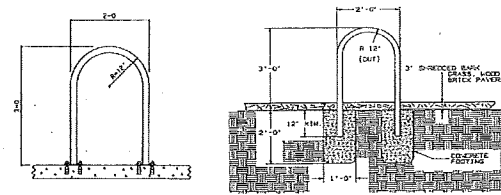
Material: 1 1/2 Schedule 40 1.80 O.D. Coating: PVC Thermoplastic over Thermoset Vinyl Primer

Excellent Resistance to:  
 Weather Acid Alkali Impact Abrasion Mildew

**Installation Options**

**SURFACE MOUNT**  
 Secured with two steel flange bases and three anchors at each base.

**IN GROUND MOUNT**  
 Secured using concrete footings.



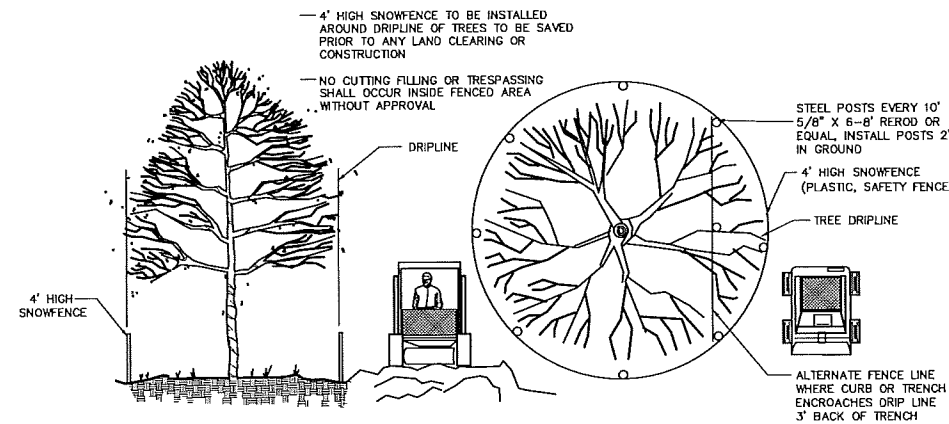
**How to Specify Bike Racks**

Bike racks to be Model No. 2447-S as manufactured by S&G Products, Dexter, Michigan (517-546-9240). 1 1/2" SCHD 40 PIPE (1.90" O.D.), rolled in the shape of an inverted "U" to a 12" outside radius standing 4" high with legs parallel in both planes. Mounting flanges to have minimum three holes for attachment. Coating to be polyvinyl chloride thermoplastic over a thermoset vinyl primer to ensure a complete crosslink bond. Thickness to be a minimum of 100 mils. Color selection by owner.

Bike racks to be Model No. 2447 as manufactured by S&G Products, Dexter, Michigan (517-546-9240). 1 1/2" SCHD 40 PIPE (1.90" O.D.), rolled in the shape of an inverted "U" to a 12" outside radius standing 4" high with legs parallel in both planes. Coating to be polyvinyl chloride thermoplastic over a thermoset vinyl primer to ensure a complete crosslink bond. Thickness to be a minimum of 100 mils. Color selection by owner.

**S & G Products**  
 2055 N. Lima Center Rd, Dexter, Michigan 48130  
 PO Box 615, Manchester, Michigan 48158  
 Phone (517)546-9240 Fax (517)546-9720  
 Email: sales@sandgproducts.com  
 Website: sandgproducts.com

NOTE:  
 SEE SHEET SP FOR PROPOSED BIKE RACK LOCATIONS



**TREE PROTECTION DETAIL**

NOT TO SCALE

**EXISTING TREE SCHEDULE:**

- 1 8" MAPLE
- 2 18" ELM
- 3 24" COTTONWOOD
- 4 18" COTTONWOOD
- 5 6" PINE
- 6 8" PINE
- 7 9" PINE
- 8 9" PINE
- 9 9" PINE
- 10 9" PINE
- 11 9" PINE
- 12 9" PINE
- 13 9" PINE
- 14 8" PINE
- 15 9" PINE
- 16 8" PINE
- 17 8" PINE
- 18 8" PINE
- 19 9" PINE
- 20 9" PINE
- 21 10" PINE
- 22 10" PINE
- 23 6" PINE
- 24 6" PINE
- 25 6" PINE
- 26 6" PINE
- 27 6" PINE
- 28 11" CRABAPPLE
- 29 12" CRABAPPLE
- 30 9" CRABAPPLE
- 31 8" CRABAPPLE
- 32 12" CRABAPPLE
- 33 9" CRABAPPLE
- 34 7" CRABAPPLE
- 35 10" BOX ELDER
- 36 7" TWIN OAK
- 37 11" BOX ELDER
- 38 12" TWIN BOX ELDER
- 39 12" TWIN BOX ELDER
- 40 24" TWIN LOCUST
- 41 19" POPLAR
- 42 18" LOCUST - DEAD
- 43 12" POPLAR
- 44 12" POPLAR
- 45 20" POPLAR
- 46 13" TWIN BOX ELDER
- 47 12" POPLAR - DEAD
- 48 10" APPLE
- 49 19" ASPEN
- 50 6" CRABAPPLE
- 51 7" CRABAPPLE
- 52 3" CHERRY
- 53 3" CHERRY
- 54 3" CHERRY
- 55 9" CRABAPPLE
- 56 9" CRABAPPLE
- 57 7" CRABAPPLE
- 58 6" PINE
- 59 6" PINE
- 60 6" PINE
- 61 6" PINE
- 62 6" PINE
- 63 6" PINE
- 64 6" PINE
- 65 6" PINE
- 66 6" PINE
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- 82 6" PINE
- 83 6" PINE
- 84 6" PINE
- 85 6" PINE
- 86 6" PINE
- 87 6" PINE
- 88 6" PINE
- 89 6" CRABAPPLE
- 90 6" CRABAPPLE
- 91 6" CRABAPPLE
- 92 6" CRABAPPLE
- 93 6" CRABAPPLE
- 94 6" PINE
- 95 6" PINE (TBR)
- 96 6" PINE (TBR)
- 97 6" PINE (TBR)
- 98 6" PINE (TBR)
- 99 6" PINE (TBR)
- 100 6" PINE
- 101 6" PINE
- 102 6" SPRUCE (TBR)
- 103 6" SPRUCE
- 104 5" PEAR (TBR)
- 105 4" LOCUST (TBR)
- 106 4" LOCUST
- 107 4" PEAR
- 108 5" GINKO
- 109 3" GINKO
- 110 6" PEAR
- 111 4" LOCUST (TBR)
- 112 3" LOCUST
- 113 6" PEAR
- 114 6" PEAR
- 115 5" PEAR
- 116 6" PEAR
- 117 6" PEAR
- 118 6" PEAR
- 119 6" PEAR
- 120 6" PEAR
- 121 6" SPRUCE
- 122 6" SPRUCE (TBR)
- 123 11" TRIPLE OAK
- 124 9" TWIN OAK
- 125 9" TWIN OAK
- 126 12" TWIN OAK
- 127 12" TWIN OAK
- 128 7" CRABAPPLE
- 129 6" PINE

**LANDSCAPING NOTES:**

1. All minimum planting sizes specified on the Project Plans shall be at the time of planting.
2. All landscape materials shall be as specified on the Project Plans or approved equal. Substitutions shall not be made without prior written approval from the Project Engineer and receipt of the Owner's Authorization.
3. All plant material shall be free of disease and insects and shall conform to the American Standard of Nursery Stock of the American Association of Nurserymen.
4. All landscape plantings shall be planted and maintained in a healthy condition and shall be guaranteed by the Landscape Contractor and/or Supplier for a minimum period of 1 year from the time of planting. Any plantings that die or become diseased during the guarantee period shall be removed and replaced by the Landscape Contractor and/or Supplier at no cost to the Owner.
5. Excavations for container or balled plantings shall be no deeper than the root ball or container and shall be at least twice the diameter of the root ball or container.
6. Excavations for bare root plantings shall be no deeper than the longest roots and shall be at least twice the diameter of the root spread.
7. The sides of planting excavations in heavy and/or wet soils shall be scarified with a fork, pick or shovel to eliminate glazing.
8. Landscape planting backfill shall consist of a prepared mixture of peat moss, composted manure and topsoil or suitable excavated native soil material mixed with the appropriate soil conditioners that are compatible with the native soil and plant species. The type and mixture ratio of soil conditioners shall be in accordance with the Landscape Supplier's recommendations.
9. The Landscape Contractor shall stake and reinforce all trees to prevent wind damage. The Landscape Contractor shall remove all tree reinforcement and stakes upon expiration of the guarantee period.
10. Perennials shall be planted on a 3" minimum bed of prepared peat moss, composted manure and topsoil mixture.
11. Landscape beds shall be separated from lawn areas with landscape edging. Landscape edging shall be black heavy-duty polyethylene type with UV protection and a double V-lip bottom edge to prevent frost heave. Landscape edging shall be staked in accordance with the Manufacturer's recommendations to prevent frost heave. Landscape edging shall be installed in strict accordance with the Manufacturer's specifications and recommendations.
12. Ground cover within landscape beds shall be decorative stone. Decorative stone shall be 2" to 4" diameter washed river rock placed 4" deep.
13. Ground cover within landscape beds shall be placed over a landscape fabric weed barrier. Landscape fabric shall be non-woven, 4 oz. per sq. yd. minimum weight, with UV protection. Landscape fabric shall be installed in strict accordance with the Manufacturer's specifications and recommendations. Landscape fabric shall not be installed over or within 12 inches of perennial plantings.
14. Lawn areas shall be established with 3" minimum depth of prepared topsoil and hydroseeded. The Landscape Contractor shall guarantee all lawn areas for a minimum period of 1 year from time of seeding. All lawn areas that do not take root or die during the guarantee period shall be re-hydroseeded as appropriate by the Landscape Contractor at no cost to the Owner. All lawn areas that become diseased during the guarantee period shall be removed and re-hydroseeded as appropriate by the Landscape Contractor at no cost to the Owner.
15. Topsoil shall be a dark, organic, natural surface soil free of clay lumps, peat, muck, subsoil, noxious weeds and other foreign material such as roots, sticks and rocks over 1/2" diameter. Topsoil shall not be frozen or muddy. All earthen areas to receive topsoil shall be finish graded and properly trimmed. Topsoil shall be spread on the prepared areas to a depth of 3 inches. After spreading, any large clods and lumps of topsoil shall be broken up and pulverized. Stones and rocks over 1/2" in diameter, roots, litter and all foreign matter shall be raked up and disposed of by the Landscape Contractor. Seed and mulch shall be placed within 5 days of topsoil placement.
16. Seed mixture for lawn areas shall consist of 10% Kentucky Blue Grass, 20% Perennial Rye Grass, 30% Hard Fescue and 40% Creeping Red Fescue. Hydroseed shall be placed within 5 days of topsoil placement and shall be placed to provide complete and uniform coverage. Fertilizer shall be placed at 80 pounds per acre, hydro mulch at 1,200 pounds per acre and water at 500 gallons per acre unless otherwise specified by the Seed Distributor/Manufacturer. All over spray areas shall be properly cleaned and restored at no expense to the contractor.
17. Seed and mulch may be substituted for hydroseed when authorized by the Owner. Seed mixtures shall meet the requirements for lawn areas as outlined above. Seed shall be uniformly applied at a rate of 220 lbs per acre unless otherwise recommended by the seed Distributor/Manufacturer. Seed mixture shall be fertilized. Fertilizer shall be uniformly applied at of 240 pounds per acre of chemical fertilizer nutrients in equal portions (10-10-10) of Nitrogen, Phosphoric Acid and Potash.
18. All seeded areas with a slope less than 1:4 shall be stabilized with straw mulch placed at 2 tons per acre unless otherwise recommended by the seed Distributor/Manufacturer. Erosion control blankets shall be substituted for straw mulch in roadway greenbelts, lawn areas adjacent to heavy traffic, lawn areas subject to high winds, slopes of 1:4 or greater and within ditches, swales and other areas exposed to concentrated overland storm water flow. Erosion control blankets shall consist of 100% straw fiber matrix with photodegradable polypropylene netting and have a 12-month minimum longevity rating. Erosion control blankets shall be pinned with biodegradable pins and shall be installed in accordance with the Manufacturer's recommendations.
19. Sod shall only be utilized where specified on the project plans. (Sod may be substituted for hydroseed when required by the Municipality or if necessary for site stabilization late in the growing season. Sod shall not be substituted without receipt of the Owner's Authorization.) Sod shall be a drought tolerant species consisting primarily of Fine Leafed Fescues including Red Fescue, Chewings Fescue and Hard Fescue with Kentucky Bluegrass filler for hardiness. Sod shall be placed on a prepared subgrade. Subgrade shall be finish graded and tilled to a depth of 4" to 6". All foreign material, roots, sticks, large soil clumps and rocks over 2" diameter shall be removed from the subgrade. Sod shall not be placed on frozen or saturated subgrade. Fertilizer, lime and/or compost shall be placed over the prepared subgrade in accordance with the Sod Supplier/Manufacturer's recommendations. Sod shall be placed in accordance with the Sod Supplier/Manufacturer's recommendations. Sod shall be installed with biodegradable stakes on slopes of 1:4 or greater and within ditches, swales and other areas exposed to concentrated overland storm water flow. All sod shall be planted and maintained in a healthy condition and shall be guaranteed by the Landscape Contractor and/or Supplier for a minimum period of 1 year from the time of planting. Any sod that dies or becomes diseased during the guarantee period shall be removed and replaced by the Landscape Contractor and/or Supplier at no cost to the Owner.
20. The Landscape Contractor shall be responsible for watering non-irrigated plantings and sod during dry weather conditions throughout the guarantee period as necessary to promote growth and establishment.
21. The existing irrigation system shall be modified as a part of this project. The existing irrigation system shall be inspected and tested to determine the limits of irrigation and condition of the irrigation system. The irrigation system shall be modified as necessary to accommodate the proposed site improvements and to provide irrigation to all lawn and landscape areas within the limits of irrigation as shown on the Landscape Plan. All broken, damaged and/or inoperable portions of the existing irrigation system shall be repaired or replaced as necessary. All existing sprinkler heads that are to remain shall be adjusted as necessary for proper operation and coverage. The Contractor shall submit an irrigation system design and shop drawings to the Owner for review and approval prior to installation. Irrigation systems shall be designed to utilize the minimum amount of water necessary to provide sufficient irrigation, satisfy the Local Municipal requirements and site conditions and shall include a min sensor. A separate water meter, if not already existing, shall be installed as a part of the irrigation system modification to allow for reduced rate metering by the Local Municipality and/or Water Authority. The Contractor shall be responsible for coordinating installation of irrigation lines, sleeves, plumbing connections, controls and appurtenances at the appropriate stages of construction. All existing irrigation lines and systems that are to remain that are cut, plugged, spliced, damaged and/or otherwise modified during demolition and/or construction activities shall be properly repaired, replaced, reconnected and/or adjusted as necessary to ensure proper operation.
22. All existing on-site trees shall be trimmed / pruned as directed by ALDI Inc.

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DESIGN#	REVISION #	DATE	REVISION-DESCRIPTION	REVISION #	DATE	REVISION-DESCRIPTION
FAF	1	02-21-18	REVISED PER TOWNSHIP REVIEW COMMENTS			
SES						
GAG						

**ALDI FOOD MARKET #51**  
**HOWELL, MI**

**LANDSCAPE NOTES & DETAILS**

CLIENT:  
 ALDI Inc.  
 2625 N. STOCKBRIDGE RD.  
 WEBBERVILLE, MICHIGAN 48892  
 (517) 521-3907

SCALE: AS NOTED  
 PROJECT No.: 9173290  
 DWG NAME: 3230.LA  
 ISSUED: FEB 21, 2018

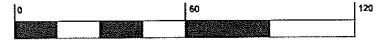
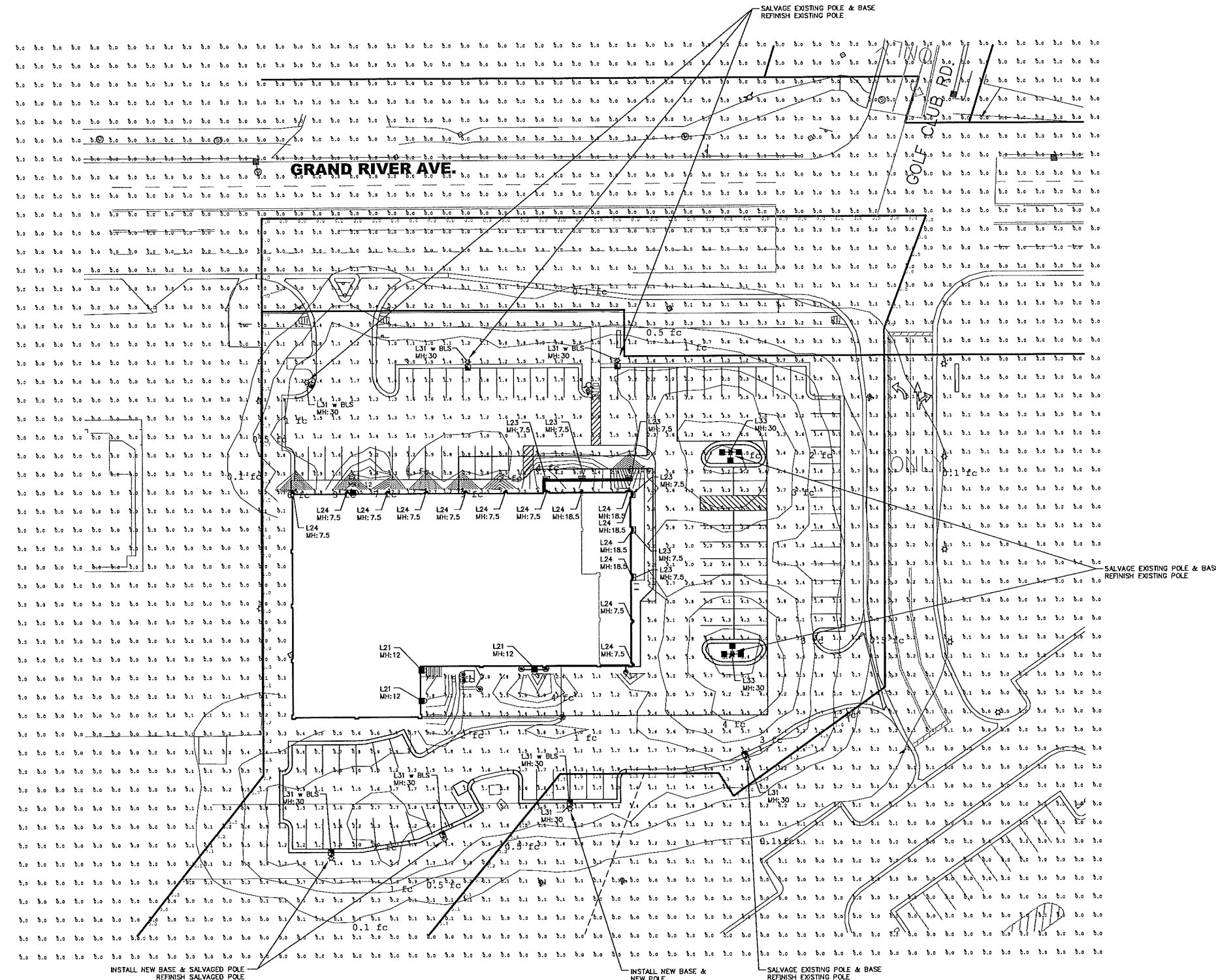
**LA2**

Symbol	Qty	Label	Arrangement	Lumens/Lamp	LLF	Total Watts	Description
⬢	4	L21	SINGLE	4109	1.000	168	XSPW403AC-UCSP
⬢	6	L23	SINGLE	N.A.	1.000	258.42	AL-27LED-UD-OS-120
⬢	7	L31 w BL	SINGLE	1950	1.000	602	OSQ-A-NM-4ME-B-5FK-UL-CS W/OSQ-DACS OSQ-BLSMF
⬢	2	L33	3 @ 90°	11648	1.000	516	OSQ-A-NM-4ME-B-5FK-UL-CS W/OSQ-DACS
⊙	14	L24	SINGLE	N.A.	1.000	824.8	CL-P5423-30-50K

Footcandles calculated using predicted lumen values after 50K hours of operation					
Label	Avg	Max	Min	Avg/Min	Max/Min
PROPERTY LINE	0.34	1.8	0.0	N.A.	N.A.
PARKING LOT	2.32	9.5	0.4	5.80	23.75

Pole Schedule  
 (1) CL-SS2-4011-26-D1-0K (26' X 4" STEEL SQUARE POLE)  
 Proposed poles meet 120 MPH established winds.

ADDITIONAL EQUIPMENT  
 (1) OSQ-DACS (DIRECT ARM MOUNT)  
 (7) OSQ-BLSMF (BACKLIGHT SHIELD)



DLC V4 is in effect as of April 1, 2017, which impacts the rebate eligibility of many LED products. If you require DLC-qualified fixtures, please reference <https://www.designlights.org/search/> for updated qualified product listings. Email [rebates@cree.com](mailto:rebates@cree.com) or [rebates@cree.com](mailto:rebates@cree.com) for assistance.



Project Name: ALDI - HOWELL, MI	Sheet: SW-2830
Date: 1/18/2018	Scale: 1"=30'
Filename: V:\CommonApp\Fring\NATVALD-180118\HWMCB AGI	Footcandles calculated at grade
	Layout by: CHRIS BOSANEC

Illustration results shown on this lighting design are based on project parameters provided to Cree, Inc. used in conjunction with Cree's best practices and used under laboratory conditions. Actual project conditions affecting from these design parameters may affect final results. The customer is responsible for verifying dimensional accuracy along with compliance with any applicable electrical, lighting, or energy code.

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ALDI FOOD MARKET #51  
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SITE LIGHTING PLAN

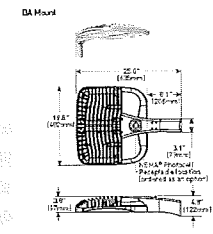
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 WEBBERVILLE, MICHIGAN 48892  
 (517) 521-3907

SCALE: NONE  
 PROJECT No.: 9173290  
 DWG NAME: 3290 LT  
 ISSUED: JAN 29, 2018

**LT1**

**OSQ Series**  
OSQ™ LED Ceiling Luminaire - Medium

**Product Description**  
The OSQ™ Area Flood Luminaire is a recessed ceiling-mounted luminaire for medium to large areas. It features a wide beam angle and is designed for use in commercial and industrial applications. The luminaire is constructed from die-cast aluminum and is available in multiple sizes and finishes. The OSQ™ Area Flood Luminaire is a recessed ceiling-mounted luminaire for medium to large areas. It features a wide beam angle and is designed for use in commercial and industrial applications. The luminaire is constructed from die-cast aluminum and is available in multiple sizes and finishes.



**Performance Summary**  
Available in multiple sizes and finishes. The OSQ™ Area Flood Luminaire is a recessed ceiling-mounted luminaire for medium to large areas. It features a wide beam angle and is designed for use in commercial and industrial applications. The luminaire is constructed from die-cast aluminum and is available in multiple sizes and finishes.

Model	Beam Angle	Power	Beam Diameter
OSQ-100	100°	100W	100"
OSQ-150	150°	150W	150"
OSQ-200	200°	200W	200"

**Ordering Information**  
For more information, please contact your local distributor or visit our website at [www.cree.com](http://www.cree.com).

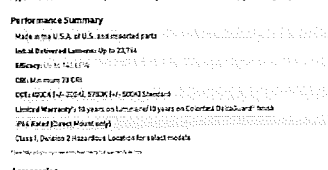
Model	Beam Angle	Power	Beam Diameter
OSQ-100	100°	100W	100"
OSQ-150	150°	150W	150"
OSQ-200	200°	200W	200"

Model	Beam Angle	Power	Beam Diameter
OSQ-100	100°	100W	100"
OSQ-150	150°	150W	150"
OSQ-200	200°	200W	200"



**CPY Series**  
CPY™ LED Ceiling Luminaire

**Product Description**  
The CPY™ Area Flood Luminaire is a recessed ceiling-mounted luminaire for medium to large areas. It features a wide beam angle and is designed for use in commercial and industrial applications. The luminaire is constructed from die-cast aluminum and is available in multiple sizes and finishes. The CPY™ Area Flood Luminaire is a recessed ceiling-mounted luminaire for medium to large areas. It features a wide beam angle and is designed for use in commercial and industrial applications. The luminaire is constructed from die-cast aluminum and is available in multiple sizes and finishes.



**Performance Summary**  
Available in multiple sizes and finishes. The CPY™ Area Flood Luminaire is a recessed ceiling-mounted luminaire for medium to large areas. It features a wide beam angle and is designed for use in commercial and industrial applications. The luminaire is constructed from die-cast aluminum and is available in multiple sizes and finishes.

Model	Beam Angle	Power	Beam Diameter
CPY-100	100°	100W	100"
CPY-150	150°	150W	150"
CPY-200	200°	200W	200"

**Ordering Information**  
For more information, please contact your local distributor or visit our website at [www.cree.com](http://www.cree.com).

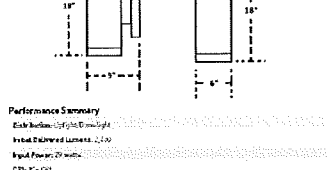
Model	Beam Angle	Power	Beam Diameter
CPY-100	100°	100W	100"
CPY-150	150°	150W	150"
CPY-200	200°	200W	200"

Model	Beam Angle	Power	Beam Diameter
CPY-100	100°	100W	100"
CPY-150	150°	150W	150"
CPY-200	200°	200W	200"



**18" Cylinder LED Sconce**  
Decorative Outdoor - Wall Mount

**Product Description**  
The 18" Cylinder LED Sconce is a decorative outdoor wall-mounted luminaire. It features a wide beam angle and is designed for use in commercial and industrial applications. The sconce is constructed from die-cast aluminum and is available in multiple finishes. The 18" Cylinder LED Sconce is a decorative outdoor wall-mounted luminaire. It features a wide beam angle and is designed for use in commercial and industrial applications. The sconce is constructed from die-cast aluminum and is available in multiple finishes.



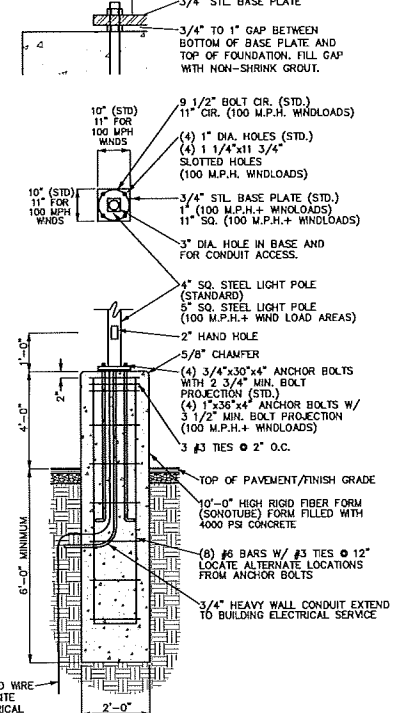
**Performance Summary**  
Available in multiple finishes. The 18" Cylinder LED Sconce is a decorative outdoor wall-mounted luminaire. It features a wide beam angle and is designed for use in commercial and industrial applications. The sconce is constructed from die-cast aluminum and is available in multiple finishes.

Model	Beam Angle	Power	Beam Diameter
18" Cylinder	180°	18W	18"

**Ordering Information**  
For more information, please contact your local distributor or visit our website at [www.cree.com](http://www.cree.com).

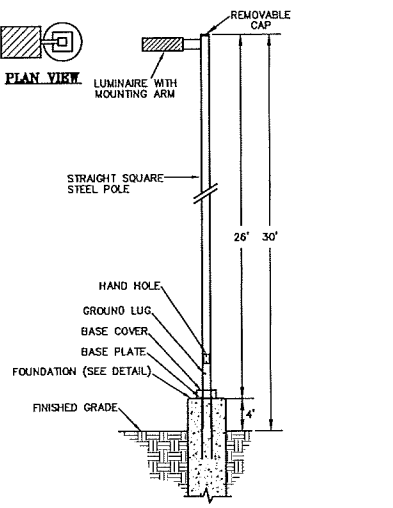
Model	Beam Angle	Power	Beam Diameter
18" Cylinder	180°	18W	18"

Model	Beam Angle	Power	Beam Diameter
18" Cylinder	180°	18W	18"



**LIGHT POLE BASE STANDARD DETAIL**  
NOT TO SCALE

- NOTES**
- FOUNDATION SHOWN IS A TYPICAL DESIGN. WIND LOADS MORE THAN 100 MPH AND/OR UNSTABLE SOIL CONDITIONS MAY REQUIRE AN ALTERNATE DESIGN. VERIFY CONDITION OF SOILS WITH SOILS REPORT.
  - FOUNDATIONS SHALL EXTEND BELOW FROST DEPTH PER LOCAL CODES.
  - CONCRETE SHALL HAVE MIN 3000 PSI COMPRESSIVE STRENGTH AT 28 DAYS.
  - SEE SITE LIGHTING ELECTRICAL PLAN WITH ARCHITECTURAL PLANS FOR ADDITIONAL REQUIREMENTS.
  - VERIFY BASE PLATE BOLT PATTERN WITH POLE MANUFACTURER AND / OR SUPPLIER PRIOR TO CONSTRUCTION.



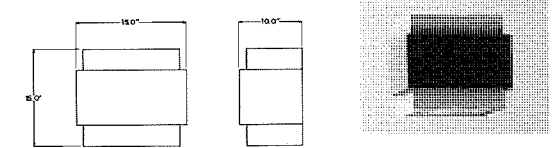
**LIGHT POLE DETAIL**  
NOT TO SCALE

**SITE LIGHTING NOTES:**

- All existing on-site pole mounted light fixtures are to be removed in accordance with the project plans. The existing light poles and bases are to be salvaged where feasible. The existing electric supply is to be salvaged unless noted otherwise on the Site Electrical Plan.
- All existing light poles shall be refinished. Remove all existing rust, scale, chipped and/or peeling finish. Prepare the surface, prime and paint all light poles in accordance with the Project Manual painting specifications and requirements for exterior finishes. Paint color shall be slate gray.
- The proposed pole mounted light fixtures shall be mounted onto the existing light poles in accordance with the light fixture manufacturer's recommendations. Any new mounting holes shall be drilled and all other necessary modifications to the existing poles shall be performed prior to refinishing of the existing poles.
- Existing exterior building mounted light fixtures shall be removed and replaced in accordance with the project plans. See the building plans for additional information and specifications.
- Contact the ALDI National Account Lighting Distributor to order fixtures, mounting accessories and pole(s):  
Mike Kreiner  
Strategic Director - National Accounts  
Cree Lighting  
9201 Washington Avenue  
Racine, WI 53406  
Office: 262-504-5037  
Cell: 224-250-1561  
[mike\\_kreiner@cree.com](mailto:mike_kreiner@cree.com)
- CAUTION!**  
This site contains existing underground public and private utilities. See the project plans for locations of the known existing and proposed underground utility locations. Existing utility information provided on the project plans may be from information disclosed to this firm by the Utility Companies, Local, County or State Agencies, and/or various other sources. No guarantee is given as to the completeness or accuracy thereof. The Site Electrical Contractor shall contact the 811 Underground Public Utility Locating System or other appropriate local underground utility locating Agency, a minimum of three (3) working days prior to performing the site electrical work. The Site Electrical Contractor shall field locate all potential utility conflicts and take the necessary precautions to avoid damage to the existing underground utilities. Any damage to the existing utilities as a result of the site electrical work shall be immediately brought to the attention of the General Contractor and shall be repaired as acceptable to the Owner, the General Contractor and the Appropriate Utility Provider. If the existing site conditions create a conflict and/or prevent the Site Electrical Contractor from performing the site electrical work, then contact the Engineer of Record.
- Any existing light pole that cannot be salvaged due to damage, corrosion and/or other conditions shall be replaced. Replacement poles shall be Cree Straight Steel Poles 26"x4", unless directed otherwise by Cree. The Contractor shall field measure the bolt pattern of the existing base and order the replacement pole with the correct base installed. The Contractor shall provide ALDI with an alternate bid price per pole to remove an existing pole and install a new replacement pole in lieu of refinishing. The bid price shall include a credit for light pole refinishing.
- Any existing anchor bolts, within an existing light pole base that is to remain, that are in need of replacement due to corrosion, damage and/or other circumstances, shall be removed and replaced with retrofit anchor bolts (Hilti or equal) in accordance with the light pole and anchor bolt manufacturer's specifications and recommendations. The Contractor shall provide ALDI with an alternate bid price per anchor bolt to remove an existing anchor bolt from an existing light pole base and install a retrofit anchor bolt.
- Any existing light pole bases that cannot be salvaged due to damage, corrosion and/or other conditions shall be replaced. Replacement bases shall be constructed in accordance with the specifications provided on the project plans. The Contractor shall provide ALDI with an alternate bid price per base to remove an existing light pole base and install a new cast in place concrete light pole base in accordance with details provided on the project plans.
- No Alternate Work shall be performed without written receipt of authorization from ALDI to complete said alternate work.

**Outdoor Wall Sconce LED Exterior Series**

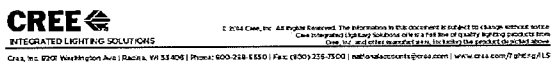
Applications: Security, pathway and perimeter lighting; ideal for entryways, walkways, and parking facilities.



CATALOG #	WATTAGE / LUMENS	INPUT/OUTPUT VOLTAGE
AL-4200-LED-100-120	35W LED 2495 Lumens	120V

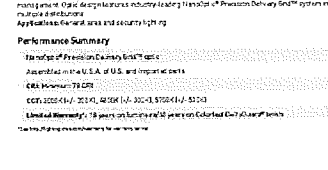
DISTRIBUTION	FINISH	FEATURES
Up & Down Distribution	Powder Coat Black Finish GG - Silver with Gray Band	• Cree LED • 75 CRI • 5700K (+/- 500K) CCT

ACCESSORIES	WARRANTY
899063-DD-CEA - Light Cover fit to convert luminaire to down light distribution	5-year limited warranty. Certain exclusions apply. For warranty terms, visit <a href="http://www.cree.com/lighting/products/warranty">www.cree.com/lighting/products/warranty</a>



**XSP Series**  
XSP™ LED Wall Flood Luminaire

**Product Description**  
The XSP™ LED Wall Flood Luminaire is a recessed wall-mounted luminaire for medium to large areas. It features a wide beam angle and is designed for use in commercial and industrial applications. The luminaire is constructed from die-cast aluminum and is available in multiple finishes. The XSP™ LED Wall Flood Luminaire is a recessed wall-mounted luminaire for medium to large areas. It features a wide beam angle and is designed for use in commercial and industrial applications. The luminaire is constructed from die-cast aluminum and is available in multiple finishes.



**Performance Summary**  
Available in multiple finishes. The XSP™ LED Wall Flood Luminaire is a recessed wall-mounted luminaire for medium to large areas. It features a wide beam angle and is designed for use in commercial and industrial applications. The luminaire is constructed from die-cast aluminum and is available in multiple finishes.

Model	Beam Angle	Power	Beam Diameter
XSP-100	100°	100W	100"
XSP-150	150°	150W	150"
XSP-200	200°	200W	200"

**Ordering Information**  
For more information, please contact your local distributor or visit our website at [www.cree.com](http://www.cree.com).

Model	Beam Angle	Power	Beam Diameter
XSP-100	100°	100W	100"
XSP-150	150°	150W	150"
XSP-200	200°	200W	200"

Model	Beam Angle	Power	Beam Diameter
XSP-100	100°	100W	100"
XSP-150	150°	150W	150"
XSP-200	200°	200W	200"



**ALDI FOOD MARKET #51**  
HOWELL, MI

**SITE LIGHTING**  
NOTES AND DETAILS

DESIGN: FAF	REVISION #	DATE	REVISION-DESCRIPTION	REVISION #	DATE	REVISION-DESCRIPTION
DRAFT: SES						
CHECK: CAG						

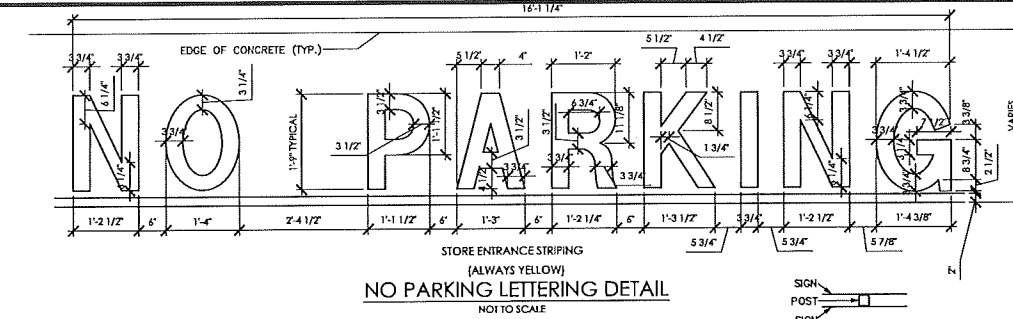
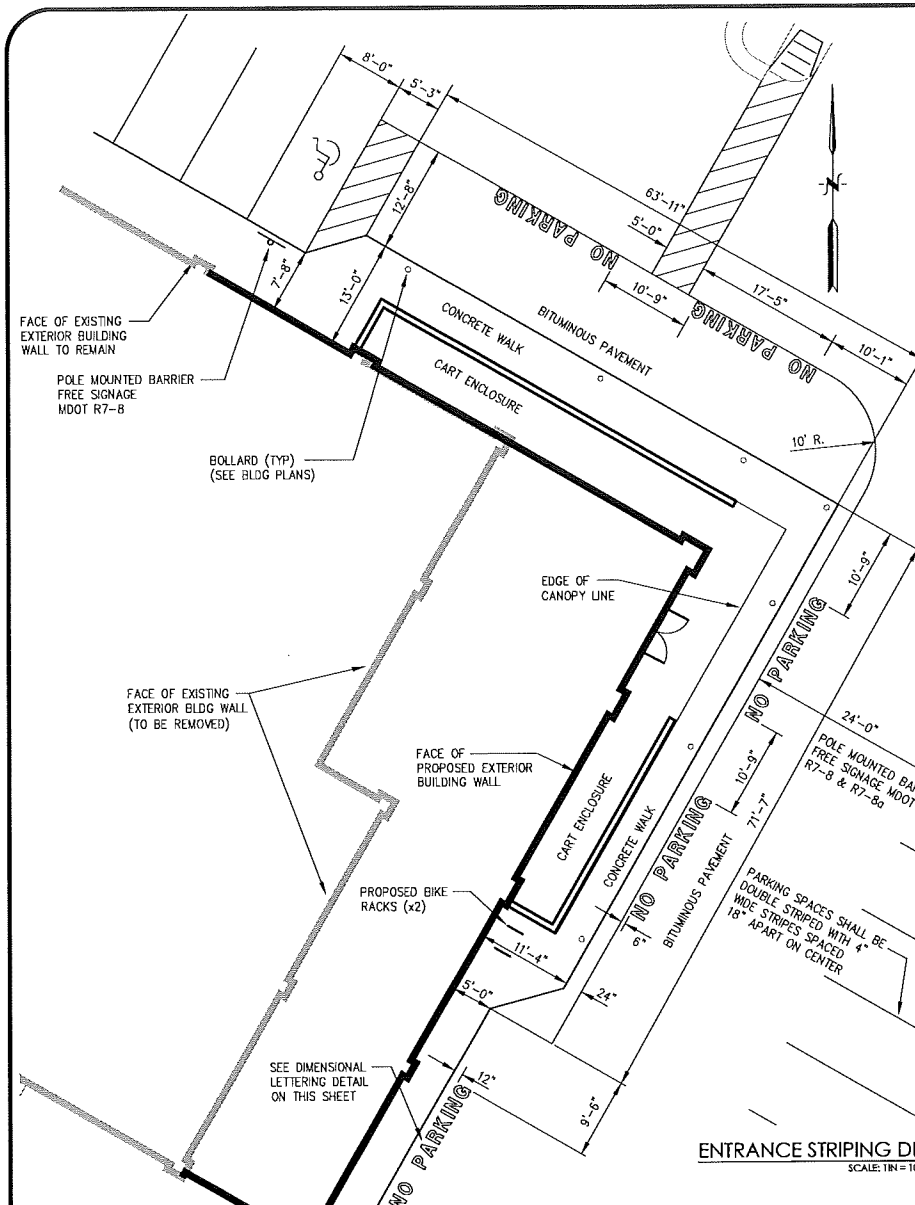
CLIENT: ALDI Inc. 2625 N. STOCKBRIDGE RD. WEBBERVILLE, MICHIGAN 48892 (517) 521-3907	SCALE: N/A PROJECT No.: 9173290 DWG NAME: 3290 LT ISSUED: JAN 29, 2018
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**811**  
Know what's below.  
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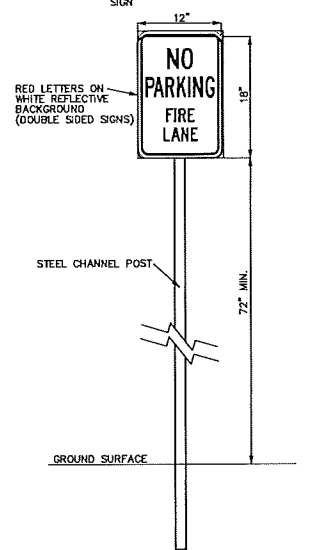
**DESIGN INC**  
(810) 227-9533  
CIVIL ENGINEERS  
LAND SURVEYORS  
2183 PLESS DRIVE  
BRIGHTON, MICHIGAN 48114

**LT2**



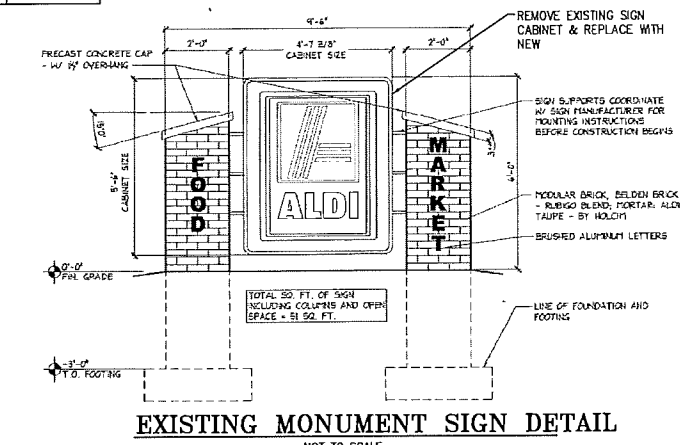
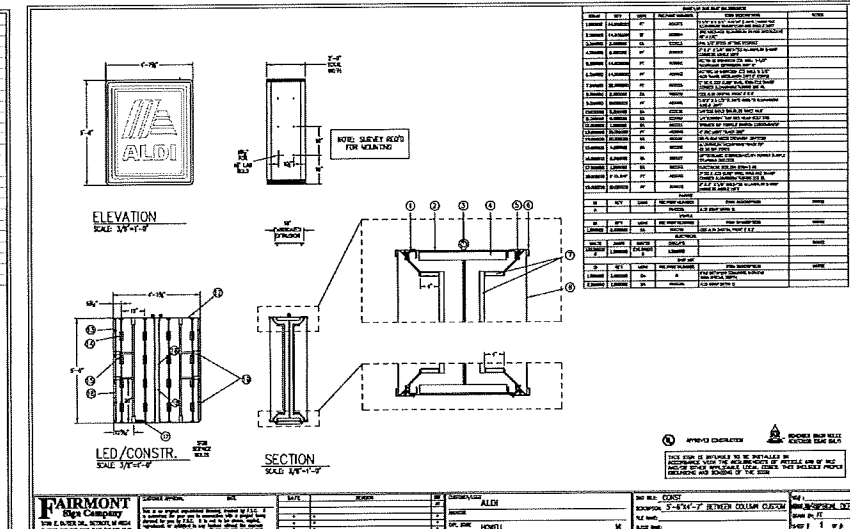
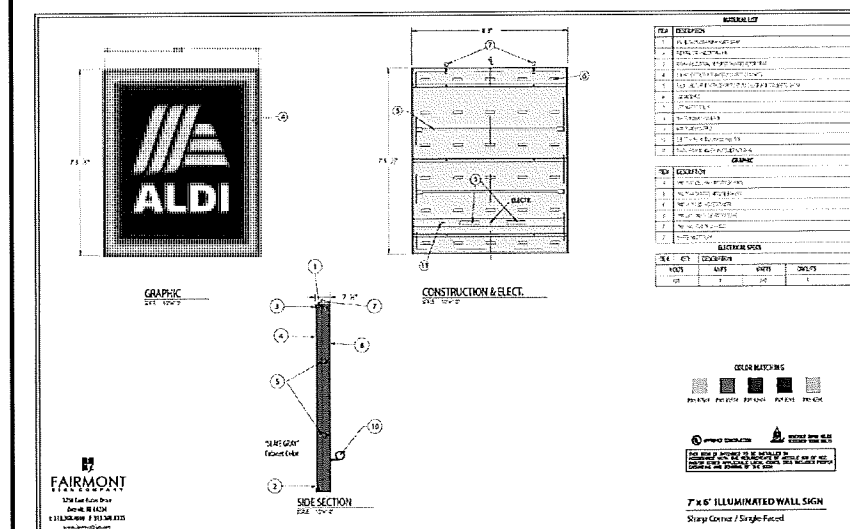
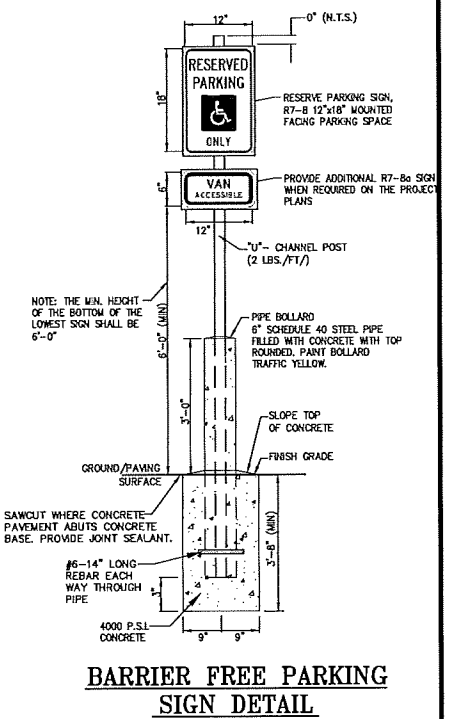
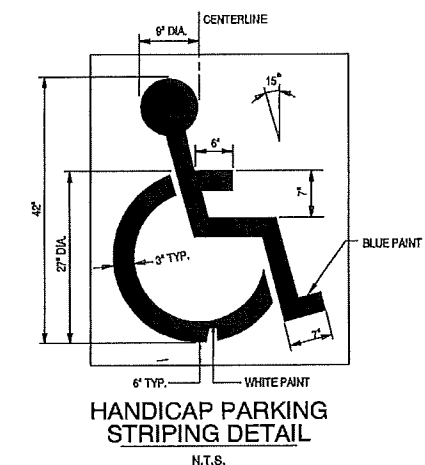


- SIGNAGE AND PAVEMENT MARKING NOTES:**
- Pavement markings shall be in accordance with the type, color, size and locations shown on the plans. If the information on the plans is not complete and the authority having jurisdiction does not have specific requirements, then use the following: Paint shall be supplied in accordance with AASHTO M 248 latest addition. Colors shall be as follows: (YELLOW - parking stalls, loading zones, parking islands, no parking zones and fire lanes) (WHITE - stop bars, pedestrian crossings, lane demarcations, directional arrows and lettering) (BLUE - handicap parking stalls and symbols). Stripe widths shall be as follows: (4" - parking spaces, driveway lanes, barrier free loading zones and no parking zones) (12" - crosswalks) (24" - stop bars).
  - The pavement shall be clean and free of dirt, dust, moisture, oils and other foreign materials at time of marking application. Any old pavement markings shall be removed unless paints are compatible and overlay identically. The surface of the pavement prior to application shall be a minimum of 45 degrees F and rising unless the Manufacturer's recommendations are greater.
  - The signage shall be in accordance with the type, color, size and locations shown on the plans in accordance with AASHTO M268. The signage shall be provided in accordance with the Local Municipality and the Michigan Manual of Uniform Traffic Devices latest edition.
  - Posts, brackets and frames shall be steel per ASTM A-36, A-242, A-441, A-572, A588, Grade 50 and hot dip galvanized in accordance with ASTM A123. All cutting, drilling and/or other pole modifications shall be painted with galvanizing paint. All mounting hardware shall be stainless steel.
  - Sign post footings shall be a minimum of 3'-6" deep and 8" in diameter unless poor soils or frost conditions require greater depth and/or diameter. Sign posts shall be kept plumb, 6 inches off the bottom of footing excavation and centered as 3000-psi concrete is placed under and around the sign post. The overall sign and post system should be able to withstand 33 pounds per square foot. All signs located in paved areas or with less than 3 feet of clearance between the centerline of sign post and the back of curb and/or edge of pavement shall be installed in a pipe bollard. Pipe bollards shall be 6" diameter schedule 40 steel pipe. Pipe bollards shall be filled with concrete that is rounded at the top of the bollard. Bollards shall be painted traffic yellow. Increase the sign post footing diameter to 14" minimum for pipe bollards and embed the bollard into the concrete footing a minimum of 3 feet below proposed finish grade.
  - Signs shall not be mounted on posts until after concrete has cured for a minimum of seven days or 3/4 strength is achieved.
  - All barrier free striping and signage shall meet the Americans with Disabilities Act (ADA) requirements.
  - All Fire Lane signs shall have a Red Border and Red Letters on White Background. All Fire Lane signs shall be Reflective. Fire lane striping and signage shall meet the requirements of the Local Building Inspector and Fire Department.
  - "Mounting Height" shall be the minimum height of the bottom of the sign above finish grade. When signs are located downhill from the roadway, driveway and/or parking area, then the "Mounting Height" shall be the height of the bottom of the sign above the top of pavement finish grade at the nearest edge of pavement adjacent to the sign.
  - All Traffic Control and Fire Lane signs shall be installed at 3 feet behind the back of curb (and/or edge of pavement) to the centerline of the sign post unless noted otherwise on the project plans.
  - The Contractor(s) and/or Subcontractor(s) responsible for installation of the sign posts shall contact the 811 Public Underground Utility Locating System a minimum of three (3) working days prior to installation of the signposts. Install the sign posts in the locations specified on the project plans. When underground utilities conflict with the proposed sign post locations, field adjust the sign locations the minimum amount necessary to safely clear the underground utilities. Maintain a minimum of 2 feet of clearance between the edge of sign and the back of curb and/or edge of sidewalk.



**SIGN SCHEDULE**

SIGN	KEY	SIZE (W x H)	TYPE OR MOUNT	MOUNTING HEIGHT	QUANTITY
RESERVED PARKING ONLY	R7-8	12' x 18'	POST MOUNTED	7'-6"	5
			BUILDING MOUNTED	7'-6"	0
VAN ACCESSIBLE	R7-8a	12' x 6'	POST MOUNTED	7'-0"	4
NO PARKING FIRE LANE	FIRE LANE	12' x 18'	POST MOUNTED	6'-0"	10



- MONUMENT SIGN NOTES:**
- The existing monument sign cabinet shall be removed in accordance with the project plans. The existing monument and foundation shall be salvaged for reuse. The existing monument sign electric supply shall be salvaged for reuse unless noted otherwise on the Site Electrical Plan with the Building Plans. See the Site Electrical Plan for additional requirements and/or specifications.
  - The existing monument shall be power washed.
  - The proposed monument sign cabinet shall be mounted onto the existing monument in accordance with the monument sign cabinet manufacturer's recommendations.

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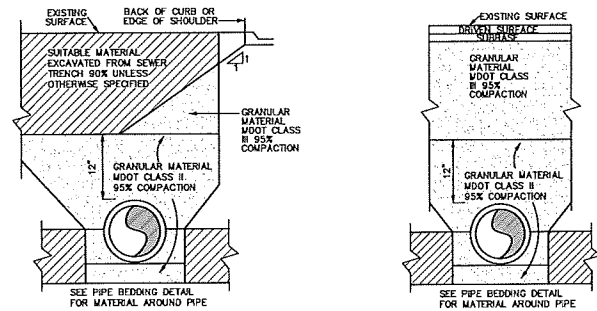
**DESIGN INC**  
(810) 227-9533  
CIVIL ENGINEERS  
LAND SURVEYORS  
2193 PLESS DRIVE  
BRIGHTON, MICHIGAN 48114

DESIGN: FAF	REVISION #	DATE	REVISION-DESCRIPTION	REVISION #	DATE	REVISION-DESCRIPTION
DRAFT: SES	1	04/10/17	REVISED PER CITY AND CLIENT REVIEW COMMENTS			
CHECK: CAG						

**ALDI FOOD MARKET #51**  
**HOWELL, MI**

**SIGNAGE & PAVEMENT MARKING NOTES & DETAILS**

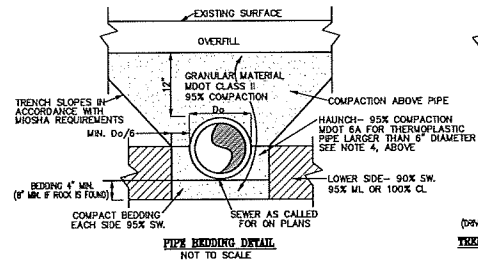
CLIENT: ALDI Inc. 2625 N. STOCKBRIDGE RD. WEBBERVILLE, MICHIGAN 48692 (517) 521-3907	SCALE: AS NOTED PROJECT No.: 9173290 OWG NAME: 3290 DT ISSUED: FEB 21, 2018	<b>DT2</b>
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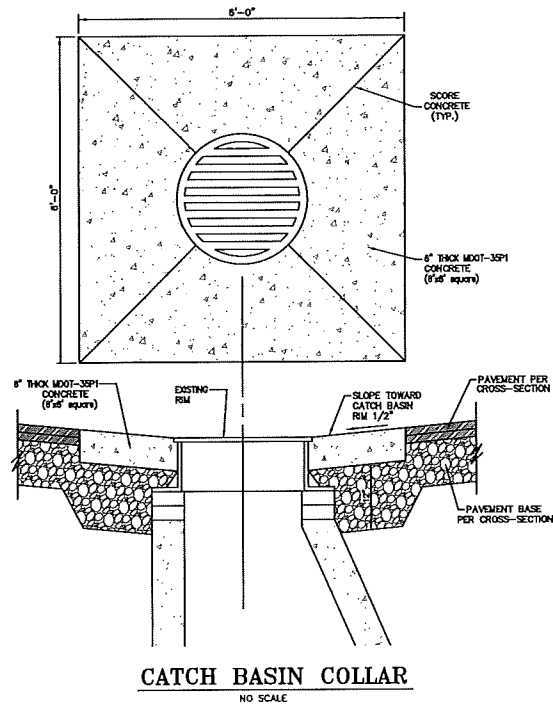
**TRENCH A - PIPE UNDER OR WITHIN INFLUENCE OF DRIVE SURFACE**  
NOT TO SCALE

- NOTES:
1. COMPACTION PRESENTED AS STANDARD PROCTOR VALUES.
  2. SOIL TYPES:
 

ASHTO DESIG.	AASHTO DESIG.
GRAVEL SANDY (SW)	A1, A3
SANDY SILTY (UL)	A2, A4
SILTY CLAY (CL)	A5, A6, A7
  3. SOIL IN HAUNCH AND LOWER SIDE ZONES OUTSIDE OF D<sub>0</sub>/6 FROM SPRING LINE SHALL BE COMPACTED TO AT LEAST THE SAME COMPACTION AS THE SOIL IN THE OVERFILL ZONE.
  4. MATERIALS AROUND THERMO. PLASTIC PIPE WITH DIAMETER 6 INCHES SHALL PASS 0.5 INCH SEVE. MATERIALS AROUND OTHER PIPES SHALL PASS 1.5 INCH SEVE.

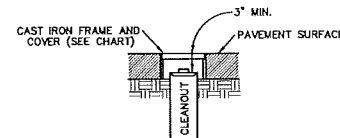


**TRENCH DETAILS**  
NOT TO SCALE

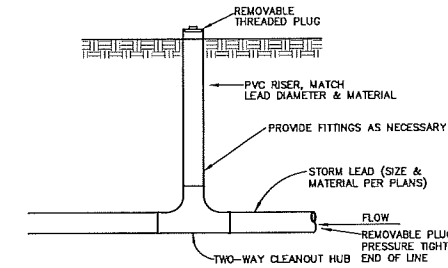


**CATCH BASIN COLLAR**  
NO SCALE

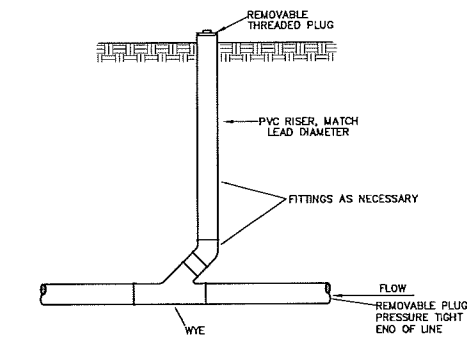
CLEANOUT DIA.	FRAME AND COVER
4"-8"	EJW 1578Z-A
10"-18"	EJW 1040Z-A-STORM



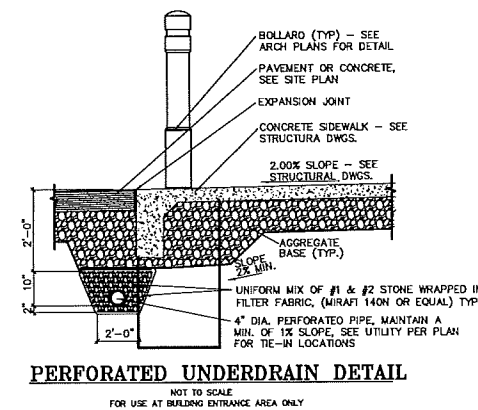
**CLEANOUT IN PAVED AREA**  
NOT TO SCALE



**TWO-WAY CLEANOUT FOR ROOF DRAIN**  
NOT TO SCALE



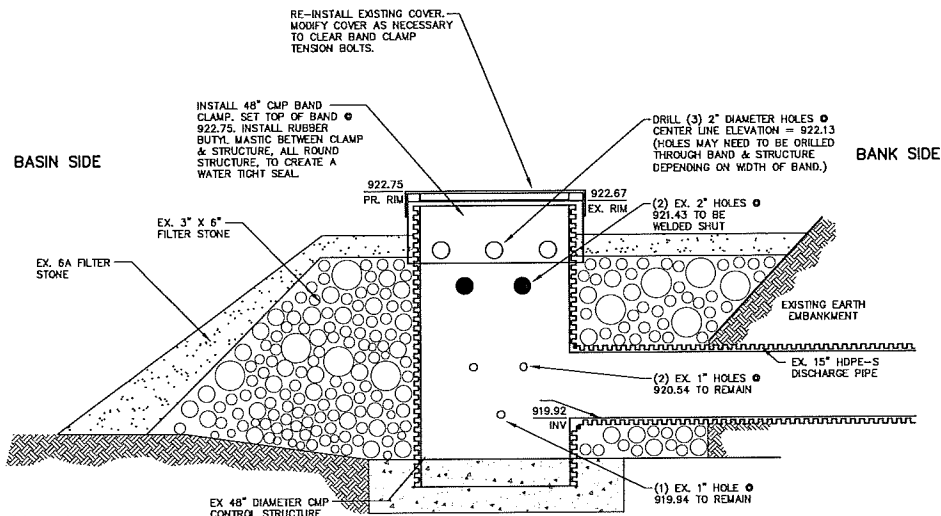
**STANDARD CLEANOUT FOR ROOF DRAIN**  
NOT TO SCALE



**PERFORATED UNDERDRAIN DETAIL**  
NOT TO SCALE  
FOR USE AT BUILDING ENTRANCE AREA ONLY

**STORM SEWER NOTES:**

1. The storm sewer and stormwater management specifications of the Local Municipality are a part of this work. Refer to the General Notes on the project plans for additional information and requirements.
2. Storm sewer work shall include clearing of vegetation and tree stumps, stripping and stockpiling of topsoil for reuse, excavation of pipe trench, placement of pipe bedding, placement of pipe and structures including castings, connection to existing structures, tuck pointing of structures, backfill of pipe trench, and compaction of backfill, finish grading to provide positive drainage to structures, adjustment of castings to match finish grade, topsoil placement, seed & mulch, site cleanup and restoration, and other storm sewer related work as shown on the project plans and specifications.
3. Existing and proposed grades shown in profile view, when provided on the project plans, may be in relation to the centerline of road or item other than the centerline of pipe. The pipe lengths and grades shown in profile view on the project plans may not be to scale.
4. RCP when shown on the project plans shall be reinforced concrete pipe and shall conform to the specifications for reinforced concrete pipe per ASTM C76. RCP pipe joints shall be bell-and-spigot with rubber gaskets conforming to ASTM C433. Non-gasketed joints shall only be utilized when authorized by the Owner, Engineer AND Municipality. Non-gasketed joints of pipe having a diameter of 30 inches or greater shall be tuck-pointed on the inside with cement mortar after the backfill process is complete. Install reinforced concrete end sections incidental to work. Saw cut pipes to length as needed. When pipe class is not shown on the project plans, provide the following:  
Pipe cover to proposed grade: 0 to 4 feet Class V  
4.1 to 10 feet Class III\*  
10.1 to 18 feet Class IV  
18.1 feet and greater Class V  
\* Use Class IV under paved surfaces
5. CMP when shown on the project plans shall be corrugated metal pipe and shall conform to the specifications for corrugated metal pipe per AASHTO Designation M36. CMP shall be 16-gauge steel minimum for 24 inch diameter or smaller and 14-gauge steel minimum for 30 inch diameter or greater. Install galvanized steel end sections and connection bands, incidental to work. Connection bands for CMP pipe joints located under paved surfaces shall be gasketed couplers. Saw cut pipes to length as needed.
6. HDPE - Type S when shown on the project plans shall be high density polyethylene pipe with a smooth interior and shall conform to the specifications for high density polyethylene pipe per AASHTO Designation M252 Type S for pipes of 3" to 10" diameter and per AASHTO Designation M294 Type S for pipes of 12" to 60" diameter. HDPE - Type S pipe joints shall be bell-and-spigot type conforming to ASTM D3212 with rubber gaskets conforming to ASTM F477. Tamp backfill at spring line of HDPE - Type S pipe. Install high density polyethylene end sections incidental to work. Saw cut pipes to length as needed.
7. HDPE - Type C when shown on the project plans shall be high density polyethylene pipe with a corrugated interior and shall conform to the specifications for high density polyethylene pipe per AASHTO Designation M252 for pipes of 3" to 10" diameter and per AASHTO Designation M294 for pipes of 12" to 60" diameter. HDPE - Type C pipe joints shall be bell-and-spigot type conforming to ASTM D3212 with rubber gaskets conforming to ASTM F477. Tamp backfill at spring line of HDPE - Type C pipe. Install high density polyethylene end sections incidental to work. Saw cut pipes to length as needed.
8. CPVC when shown on the project plans shall be corrugated polyvinyl chloride pipe and shall conform to the specifications for corrugated polyvinyl chloride pipe per ASTM F794 and F949. CPVC pipe joints shall be bell-and-spigot type conforming to ASTM D3212 with rubber gaskets conforming to ASTM F477. Tamp backfill at spring line of CPVC pipe. Install high density polyethylene end sections incidental to work. Saw cut pipes to length as needed.
9. PVC when shown on the project plans shall be polyvinyl chloride pipe and shall conform to the specifications for polyvinyl chloride pipe per ASTM D2751, maximum SDR of 26. PVC pipe joints shall be bell-and-spigot type conforming to ASTM D3212 with rubber gaskets conforming to ASTM F477 or solvent welded type conforming to ASTM D2564. Tamp backfill at spring line of PVC pipe. Saw cut pipes to length as needed.
10. Concrete storm structures shall be pre-cast and shall conform to the specification of pre-cast concrete structures per ASTM C478. Joints of concrete storm structure sections shall be bell-and-spigot with rubber gaskets conforming to ASTM C433. Brick, concrete block or cast in place storm structures may be substituted for pre-cast storm structures ONLY when authorized by the Owner, Engineer AND Municipality; refer to MDOT standard plan R-1, latest revision. All pipe openings in pre-cast structures shall be factory installed and shall include a rubber boot resilient pipe to manhole connector conforming to ASTM C1478-07. All clamps, bands and hardware shall be stainless steel or other non-corrosive material. Provide the appropriate adapter(s) as necessary for corrugated pipe. Pipe to storm structure connections shall be performed in accordance with the rubber boot connector manufacturer's recommendations. All temporary openings and seams in storm structures shall be tuck-pointed watertight with cement mortar. Refer to MDOT standard plan R-2, latest revision, for alternate on-line storm structure details when pipe exceeds 42 inch diameter.
11. Tap existing structures as acceptable to the Engineer and Municipality, incidental to work. All temporary openings in storm structures shall be tuck-pointed watertight with cement mortar.
12. Backfill all storm sewer in accordance with the Pipe Trench details provided on the project plans. Provide pipe bedding that meets or exceeds both the specifications of the Pipe Trench details on the project plans and the recommendation of the pipe manufacturer, incidental to work.
13. When edge drains and/or under drains are shown on the project plans, connection to storm structures is incidental to work. During storm sewer construction, install first 10 linear feet of edge drain and/or under drain from the storm structures in each specified direction and install temporary cap at end. Complete installation of edge drain following preparation of the subgrade when under paved surface or following finish grade when not under paved surface.
14. Install removable plugs in storm sewer stubs as acceptable to Engineer and Municipality, incidental to work. Mark the end of all storm sewer stubs with a 2" x 4" wooden stake extending a minimum of 12" above finish grade, incidental to work.
15. Storm structure castings shall be coated with water based asphaltic paint by the manufacturer. Seams and temporary openings between storm structures and castings shall be tuck-pointed water tight with cement mortar. Coordinate correct curb box / hood / "T" back as needed to match curb profile. See casting schedule on project plans for additional requirements.
16. Provide 3.5' minimum cover from the top of pipe of all roof drain pipes to the proposed finish grade when site conditions allow. When pipe cover is less than 3.5', install 2" thick by 24" wide Styrofoam insulation centered over the top of pipe at 12" above top of pipe or as required by the Local Municipality.



**CONTROL STRUCTURE CS-101 MODIFICATION DETAIL**  
NOT TO SCALE

**CS-101 NOTES:**

1. Any existing filter stone removed to perform structure modifications shall be replaced upon completion of structure modifications.
2. Place 1" additional washed MDOT 6A stone over the top of the filter stone to match new rim elevation.
3. Crushed concrete is not acceptable for use as filter stone.
4. Contact Engineer if conflict exists.

DESIGN: FAF	REVISION #	DATE	REVISION-DESCRIPTION	REVISION #	DATE	REVISION-DESCRIPTION
DRAFT: SES	1	02-21-18	REVISED PER TOWNSHIP REVIEW COMMENTS			
CHECK: CAG						

ALDI FOOD MARKET #51  
HOWELL, MI

STORM SEWER  
NOTES & DETAILS

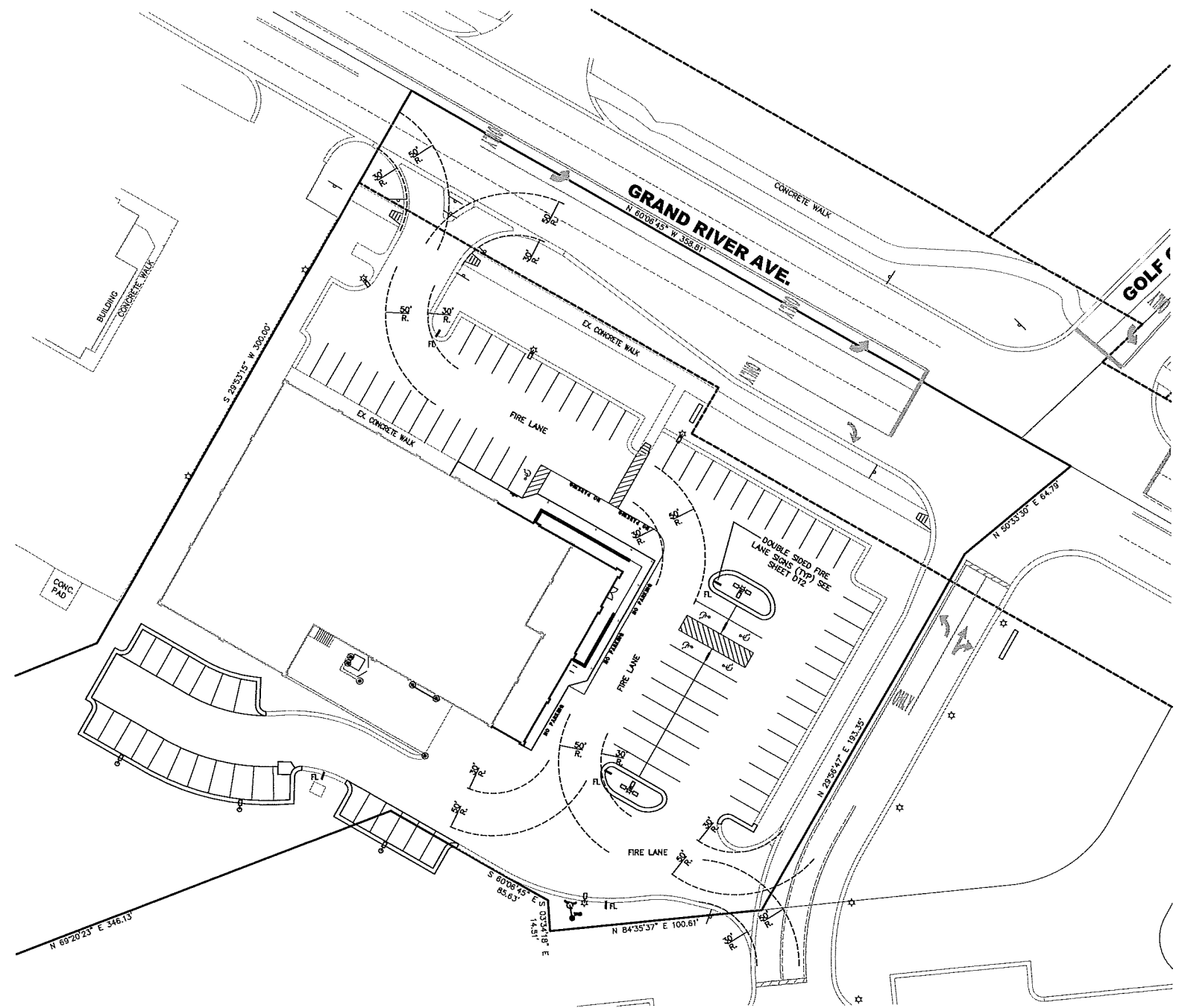
CLIENT:	SCALE: NO SCALE
ALDI, Inc.	PROJECT No.: 9173290
2625 N. STOCKBRIDGE RD.	DWG NAME: 3290 DT
WEBBERVILLE, MICHIGAN 48892	ISSUED: FEB 21, 2018
(517) 521-3907	

**DT3**

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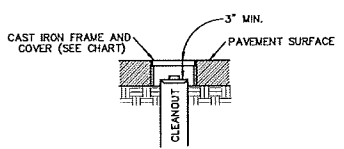


**EMERGENCY VEHICLE CIRCULATION PLAN**  
SCALE: 1" = 30'

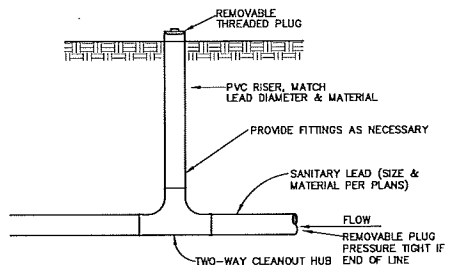
**SANITARY SEWER LEAD NOTES:**

- The Local Plumbing Code and sanitary sewer specifications of the M.H.O.G. Sewer and Water Authority are a part of this work. Refer to the General Notes on the project plans and the M.H.O.G. Standard Details for additional information and requirements.
- Sanitary Sewer Leads shall be PVC pipe conforming to ASTM D3034, maximum SDR of 23.5. Pipe joints shall be push on bell-and-spigot type joints conforming to ASTM D3212 with factory installed flexible elastomeric gaskets conforming to ASTM F477. Solvent cemented joints shall only be used when noted on the project plans for specific applications and shall conform to ASTM D2855. Provide pipe diameter and slope per project plans.
- Contractor shall field locate all existing utilities prior to work. Contractor shall provide all bends and fittings as needed, incidental to work, to install the sanitary sewer leads and to provide the required clearance between the sanitary sewer leads and all existing and proposed utilities while maintaining the proposed minimum pipe slope and proposed lead end invert elevation. Contractor shall notify the Engineer immediately of any utility crossing conflicts.
- Provide 4.0' minimum cover from the top of the sanitary sewer lead pipe to the proposed finished grade when site conditions allow. When pipe cover is less than 4.0', install 2" thick by 24" wide Styrofoam insulation centered over pipe at 12" above top of pipe or as required by Local Code. Backfill all sanitary sewer leads in accordance with the trench details on the project plans.

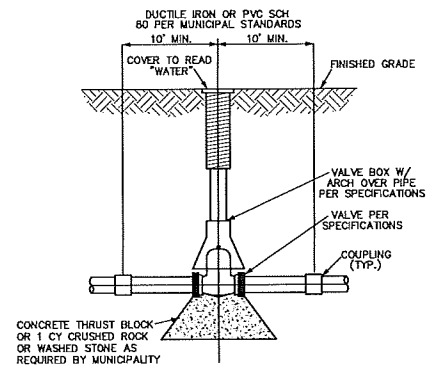
CLEANOUT DIA.	FRAME AND COVER
4"-8"	E.I.W 1574
10"-18"	E.I.W 1040Z-A-SANITARY



**CLEANOUT IN PAVED AREA**  
NOT TO SCALE



**TWO-WAY CLEANOUT FOR SANITARY LEAD**  
NOT TO SCALE

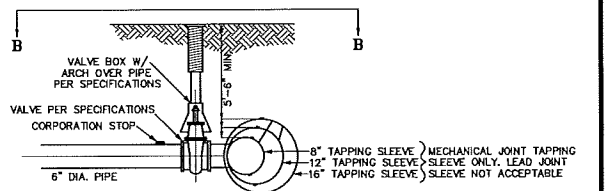


**VALVE AND BOX DETAIL**  
NOT TO SCALE

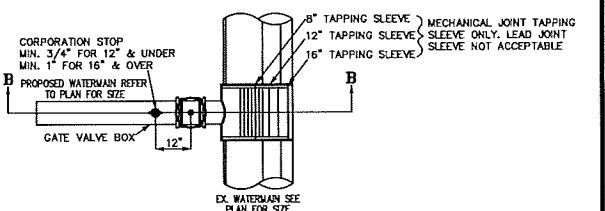
- NOTE:
- FOR PLASTIC PIPE, WRAP TRACER WIRE AROUND TOP OF VALVE BOX.
  - INSTALL COUPLINGS/FITTINGS AS NEEDED.
  - PROVIDE MECHANICAL JOINT RESTRAINTS FOR ALL GATE VALVES.

**WATER MAIN NOTES:**

- The water main specifications of the M.H.O.G. Sewer and Water Authority are a part of this work. Refer to the General Notes on the project plans and the M.H.O.G. Standard Details for additional information and requirements.
- DIP shall be ductile iron pipe conforming to ANS/AWWA C151/A21.51-02. DIP shall have a cement lining conforming to ANS/AWWA C104/A21.4-95. DIP shall be class 52 unless noted otherwise on the project plans. Provide polyethylene wrap in accordance with M.H.O.G. standards and specifications.
- Fittings shall be cast ductile iron Class 52, or Pressure Class 350 and shall conform to ANS/AWWA C153/A21.53-00 and shall have a cement lining conforming to ANS/AWWA C104/A21.4-95.
- Joints shall push-on type conforming to ANS/AWWA C111/A21.11-00. Sealing gaskets, retainer glands and lubricants shall be in accordance with the pipe manufacturer's specifications.
- Provide approved mechanical restraint systems at all bends of 11.25 degrees or greater, tees, crosses and hydrant elbows in accordance with the M.H.O.G. Standard Details. Thrust blocks shall only be utilized when authorized by M.H.O.G..
- Water gate main valves shall be nonrising-stem, resilient-seated gate valves with box, conforming to AWWA C515-01, 250 psig minimum working pressure rating with interior coating conforming to AWWA C550. All gate valves shall open counter clockwise (left).
- Fire Hydrant Assemblies shall include all necessary piping and fittings for a complete assembly. Fire hydrants shall conform to AWWA C502. Fire hydrants shall be East Jordan Iron Works SBR-250 Watermaster with an integrated 5" Storz coupling or as otherwise specified by M.H.O.G. and/or the Brighton Area Fire Authority. Provide 5'-6" minimum cover.
- Tapping Sleeve and Valve shall meet the requirements of the M.H.O.G. Sewer and Water Authority. See Tapping Sleeve and Valve detail for additional requirements.
- Connect to existing water mains in accordance with the project plans and M.H.O.G. standards and specifications. Provide all materials and labor required for a complete watertight connection, incidental to work. Taps to existing water main shall be performed under pressure and without interruption of service.
- Backfill all water main in accordance with the Pipe Trench details provided on the project plans. Provide pipe bedding that meets or exceeds both the specifications of the Pipe Trench details on the project plans and the recommendation of the pipe manufacturer, incidental to work. Provide 5'-6" minimum cover for all water main.
- Provide 10' minimum horizontal separation and 1.5' minimum vertical separation between water main and both sanitary sewer and storm sewer.
- Contractor shall flush, test and chlorinate the water main in accordance with M.H.O.G. standards and specifications.



**SECTION B-B**  
**16"X6", 12"X6", 8"X6"\***  
**TAPPING SLEEVE, VALVE & WELL**  
NOT TO SCALE



**PLAN TAPPING SLEEVE**  
NOT TO SCALE

- NOTES:
- SIZE OF TAPPING SLEEVE MAY VARY AS NECESSARY TO MATCH SIZES OF EXISTING AND PROPOSED WATERMAIN. REFER TO SIZES SHOWN ON PLAN.
  - ALL JOINTS TO BE RESTRAINED PER MUNICIPAL STANDARDS OR TO MANUFACTURER'S SPECIFICATION, WHICHEVER IS GREATER.

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DESIGN#	REVISION #	DATE	REVISION-DESCRIPTION	REVISION #	DATE	REVISION-DESCRIPTION
FAF						
SES						
CAG						

**ALDI FOOD MARKET #51**  
**HOWELL, MI**

**WATER MAIN AND SANITARY SEWER NOTES & DETAILS**

CLIENT:  
ALDI, Inc.  
2625 N. STOCKBRIDGE RD.  
WEBBERVILLE, MICHIGAN 48892  
(517) 521-3907

SCALE: NO SCALE  
PROJECT No.: 9173290  
DWG NAME: 3290 DT  
ISSUED: FEB 21, 2018

**DT4**

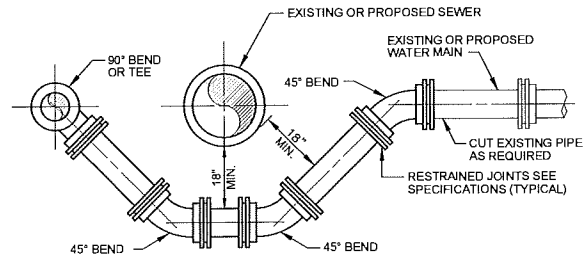


### PIPE RESTRAINT SCHEDULE

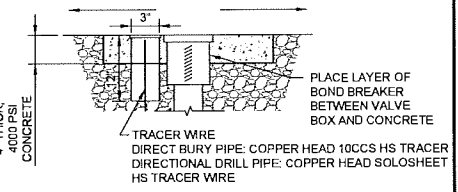
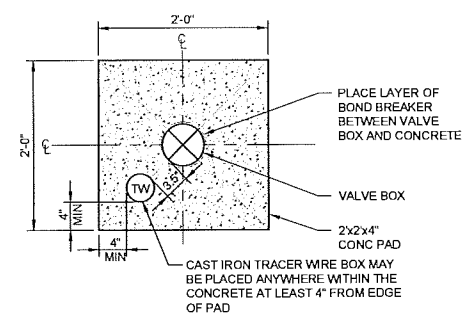
GROUND BURIED PRESSURE PIPE - POLYETHYLENE ENCASED DUCTILE IRON PIPE

PIPE DIAMETER	TEES, 90° BENDS	45° BENDS	22-1/2° BENDS	11-1/4° BENDS	DEAD ENDS	REDUCERS (ONE SIZE REDUCTION)*	REDUCERS (TWO SIZE REDUCTION)*
4	13	5	3	1	40	--	--
6	19	8	4	2	58	31	--
8	24	10	5	2	75	30	70
12	34	14	7	3	107	57	116
16	43	18	9	4	139	59	137
20	52	22	10	5	169	59	134
24	61	25	12	6	199	60	132
30	73	30	15	7	242	85	168
36	84	35	17	8	281	84	168

- LENGTHS OF PIPE RESTRAINT ARE GIVEN IN FEET.
  - IF REQUIRED PIPE DIAMETER IS NOT LISTED IN THIS TABLE, THE NEXT LARGEST PIPE DIAMETER SHALL BE USED.
  - THIS TABLE IS BASED ON A TEST PRESSURE OF 180 PSI (OPERATING PRESSURE PLUS WATER HAMMER). FOR OTHER TEST PRESSURES, ALL VALUES TO BE INCREASED OR DECREASED PROPORTIONALLY.
  - THE VALUES PROVIDED OF RESTRAINT LENGTH ARE IN EACH DIRECTION FROM THE POINT OF DEFLECTION OR TERMINATION EXCEPT FOR TEES, AT WHICH ONLY THE BRANCH IN THE DIRECTION OF THE STEM.
  - IF TIE RODS ARE USED, USE FOUR RODS MINIMUM AND ADD 1/8-INCH TO BAR DIAMETER AS CORROSION ALLOWANCE.
  - SIZE REDUCTION IS BASED UPON THE PIPE DIAMETER SHOWN IN THIS TABLE.
- BASED UPON: INTERNAL PRESSURE: 180  
PIPE DEPTH: 5  
BEDDING CLASS: TYPE 4  
SOIL TYPE: GOOD SAND  
SAFETY FACTOR: 2



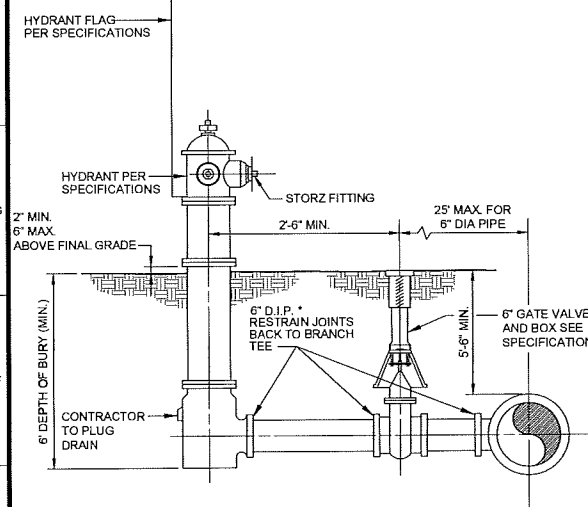
**WATER MAIN UTILITY OFFSET**



NOTE: ALL BOXES & ADJOINING TW BOXES SHALL BE ENCASED IN A CONCRETE PAD UNLESS OTHERWISE DETERMINED BY MHOG.

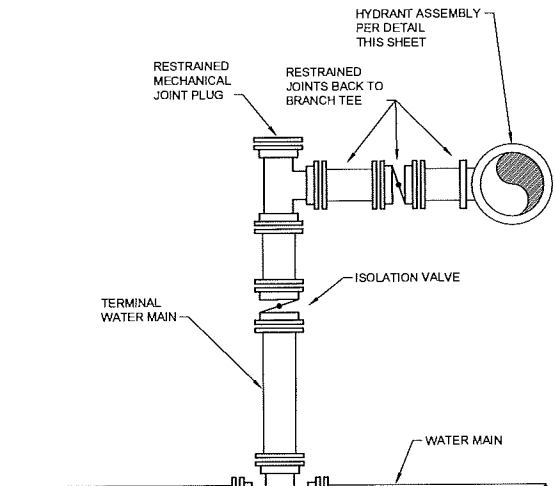
- NOTE:
- TRACER WIRE BOXES LOCATED WITHOUT A VALVE BOX ONLY REQUIRE AN 18" X 18" CONCRETE PAD.
  - TRACER WIRE BOX SHALL HAVE A LOCKING LID WITH STANDARD AWWA PENTAGON KEY.
  - TRACER WIRE BOX SHALL BE COPPERHEAD RB14" TP IN ASPHALT INSTALLATIONS AND CD14" TP FOR ALL OTHER INSTALLATIONS.

**PLAN**  
**VALVE/TRACER WIRE BOX IN CONCRETE DETAIL**  
NO SCALE

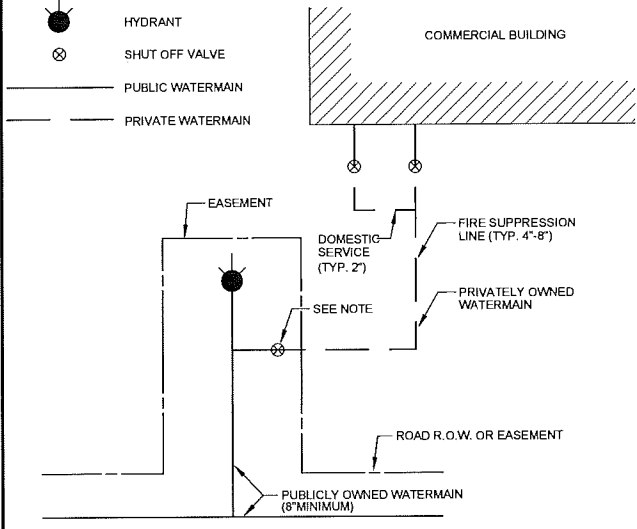


**FIRE HYDRANT ASSEMBLY**

\* THE LENGTH OF 6" PIPE FROM THE MAIN TO THE HYDRANT ASSEMBLY CANNOT EXCEED 25'. ANY PIPE OVER 25 FEET SHALL BE 8" DIAMETER MINIMUM AND DESIGNED PER MHOG SPECIFICATIONS.

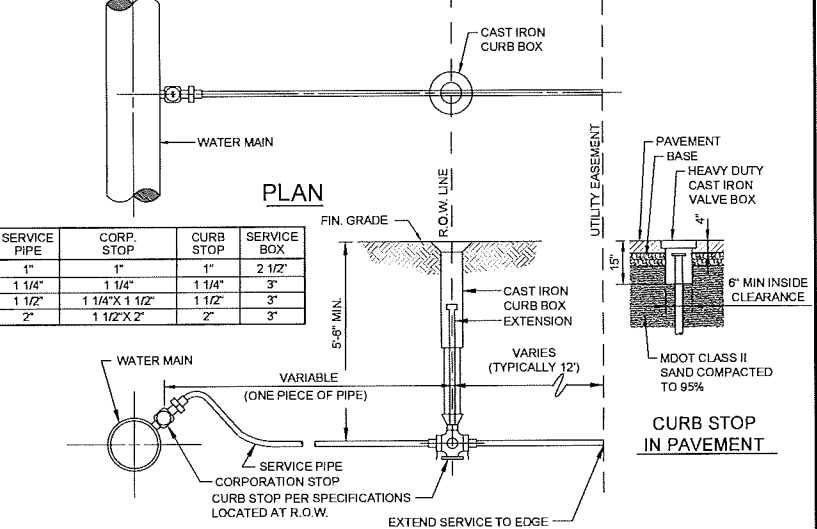


**TERMINAL HYDRANT DETAIL**

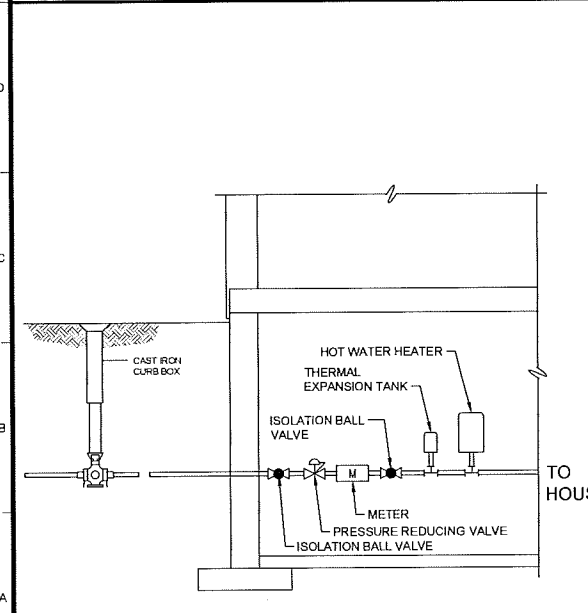


**COMMERCIAL BUILDING WATER SERVICE LAYOUT**

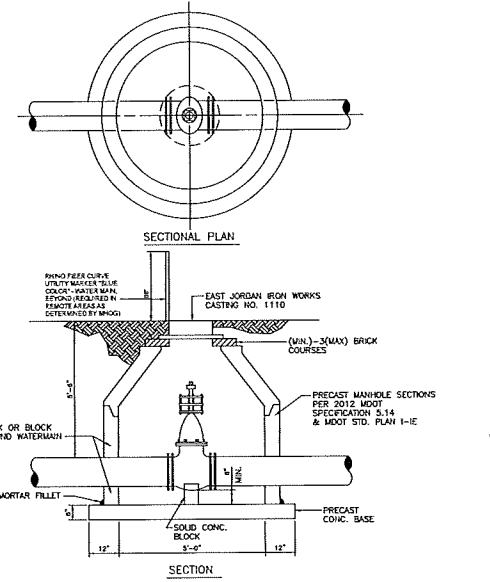
NOTE: PUBLICLY OWNED SHUT OFF VALVE TO BE LOCATED IN EASEMENT.



**SECTION**  
**WATER SERVICE LATERAL**

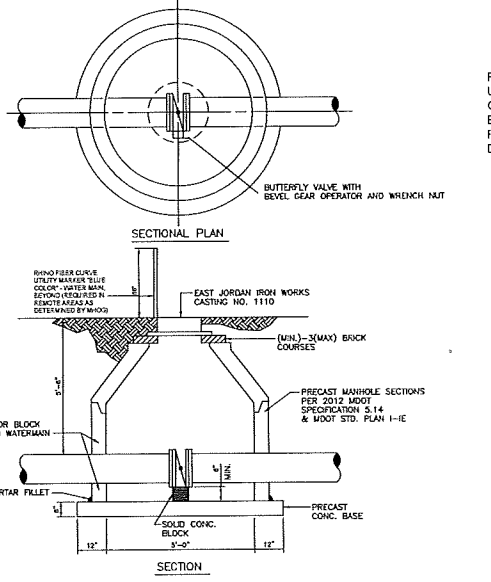


**PRIVATE RESIDENCE PRESSURE REDUCING VALVE (PRV)**



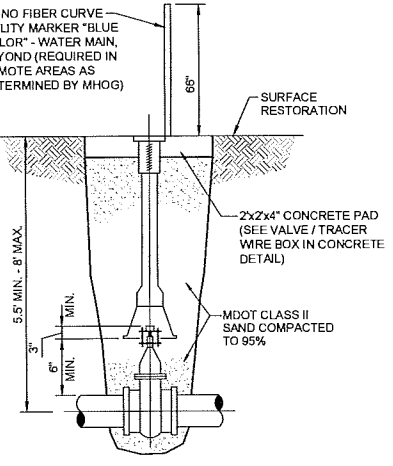
**GATE VALVE AND WELL**

NOTES:  
1. ALL LIFT HOLES AND JOINTS SHALL BE MORTARED BOTH INSIDE AND OUTSIDE.  
2. BLOCK MANHOLES TO BE USED ONLY WITH ENGINEER'S PERMISSION.  
3. NO STEPS PERMITTED.



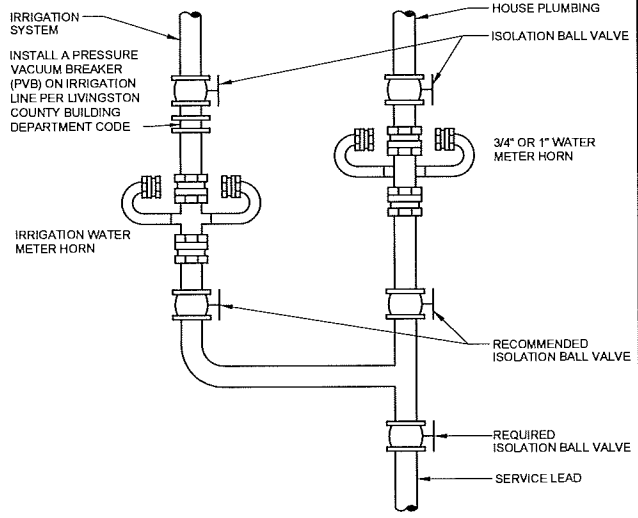
**BUTTERFLY VALVE AND WELL**

NOTES:  
1. ALL LIFT HOLES AND JOINTS SHALL BE MORTARED BOTH INSIDE AND OUTSIDE.  
2. BLOCK MANHOLES TO BE USED ONLY WITH ENGINEER'S PERMISSION.  
3. NO STEPS PERMITTED.



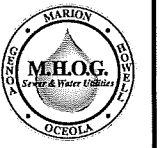
**GATE VALVE AND BOX**

NOTES:  
1. VALVE BOX SHALL NOT REST ON VALVE OR MAIN LINE PIPE.  
2. A VALVE STEM EXTENSION WITH CENTERING RING IS REQUIRED FOR VALVES BURIED DEEPER THAN 6".



- NOTES:
- ALL METERS ARE TO BE INSTALLED HORIZONTALLY IN A DRY, CLEAN, SANITARY LOCATION THAT IS READILY ACCESSIBLE. THIS DRAWING IS NOT TO SCALE & IS ONLY A REPRESENTATION OF HOW THE METERS SHOULD BE INSTALLED. THE SECOND METER IS OPTIONAL FOR IRRIGATION USAGE. METERS SHOULD NOT BE INSTALLED IN LINE (ONE RIGHT AFTER THE OTHER).
  - PROPERTIES DESIGNATED "HIGH HAZARD" PER THE MHOG CROSS CONNECTION RULES MANUAL WILL REQUIRE THE INSTALLATION OF A REDUCED PRESSURE ZONE (RPZ) BACK FLOW PREVENTION DEVICE.

**TYPICAL METER HORN INSTALLATION**

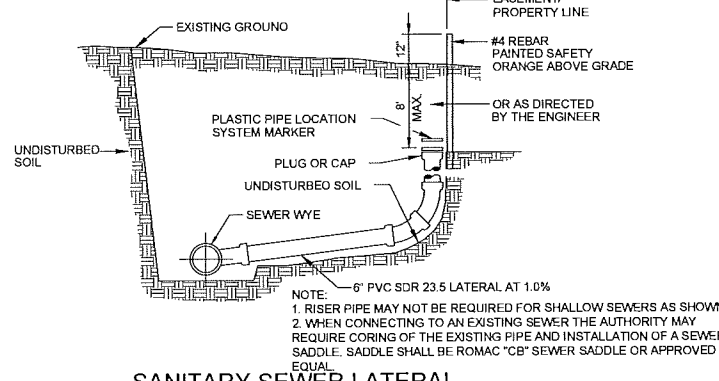


MARION HOWELL OCEOLA GENOA  
Sewer and Water Authority

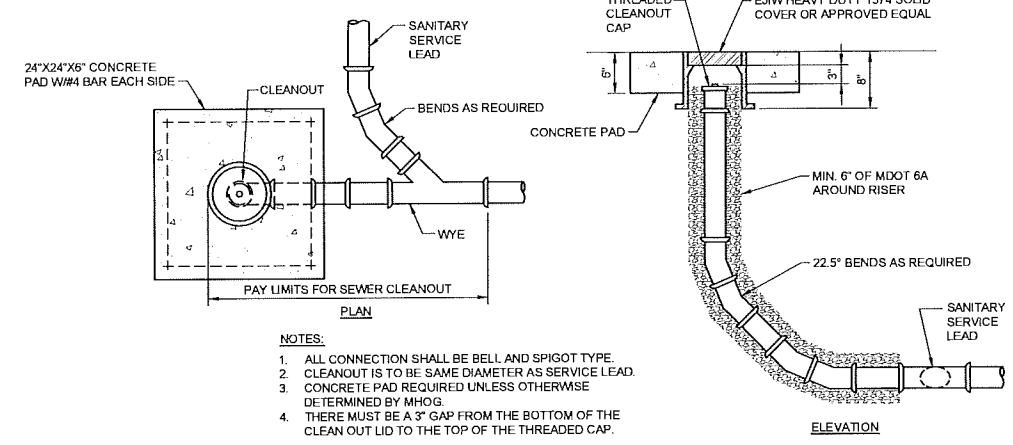
STANDARD DETAILS

Scale: NONE  
Issued Date: JANUARY - 2014  
UPDATED: MAY 2015  
UPDATED: FEBRUARY 2016  
UPDATED: APRIL 2016  
UPDATED: OCTOBER 2017

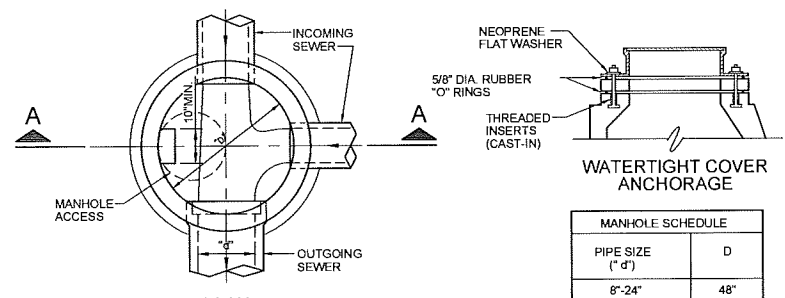
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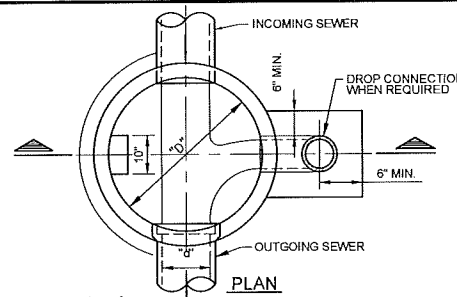
**SANITARY SEWER LATERAL**



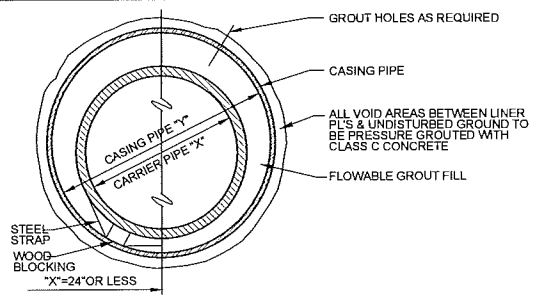
**SEWER CLEANOUT DETAIL**



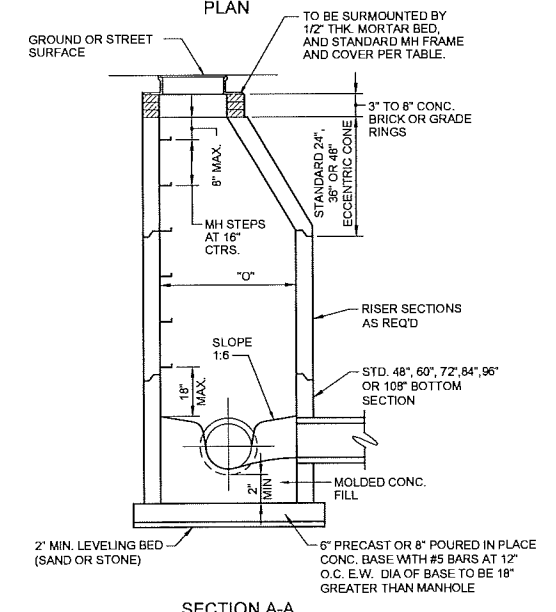
MANHOLE SCHEDULE	
PIPE SIZE (\"/>	
8\"/>	48\"/>
27\"/>	60\"/>
42\"/>	72\"/>
54\"/>	84\"/>



**DROP CONNECTION**



**CASING PIPE**

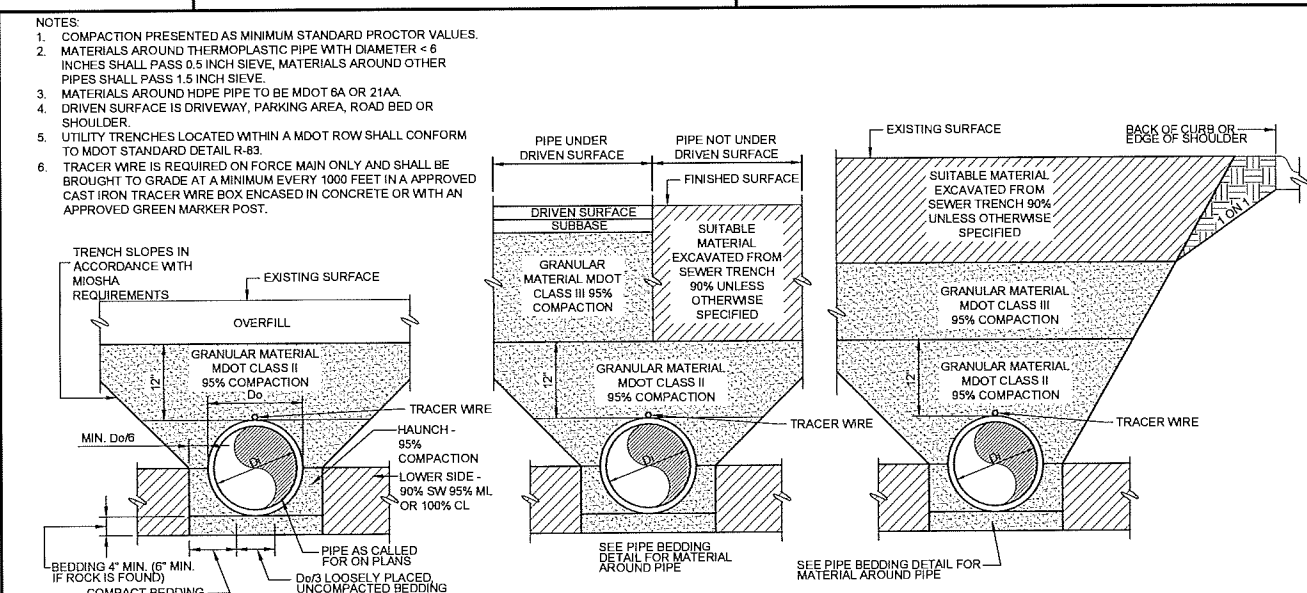


**SECTION A-A**

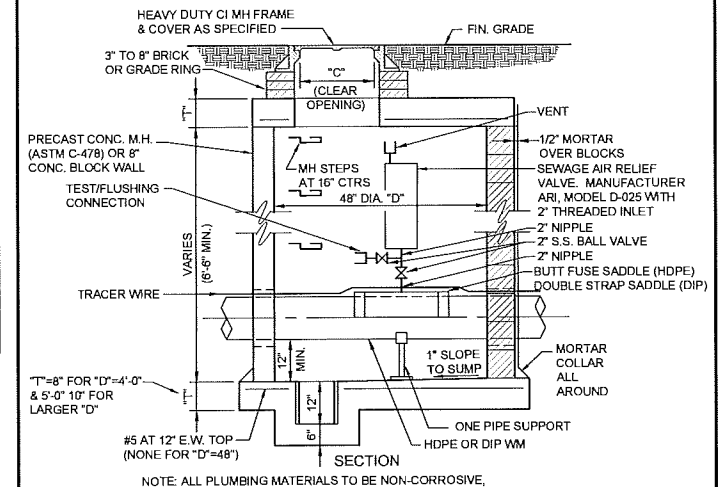
- NOTES:
1. ALL SANITARY MANHOLES TO BE PRECAST REINFORCED CONCRETE WITH PREMIUM JOINTS. SEE SPECIFICATIONS FOR BASE SLAB AND PIPE OPENINGS AND CONNECTIONS.
  2. MANHOLE CONES SHALL BE THE ECCENTRIC TYPE.
  3. PROVIDE 8\"/>
  4. FORCE MAINS CONNECT DIRECTLY TO A MANHOLE SHALL BE INSTALLED SO THAT THE ELEVATION OF THE PIPE CROWNS MATCH. THE FORCE MAIN SHALL BE DIRECTED DOWNWARD INTO THE FLOW CHANNEL.
  5. FOR SANITARY SEWERS ALL PIPES SHALL ENTER MANHOLE THROUGH RUBBER BOOTED CONNECTION.

FRAME & COVER FOR SANITARY SEWER MANHOLES			
TYPE	TYPE OF COVER	MANUFACTURER OR EQUAL	
		EAST JORDAN	NEENAH
MH	SANITARY - SOLID SELF-SEALING	1040.0000	R-1642
MH	SANITARY - SOLID WATERTIGHT	1040-APT	R-1916-F
CO	SOLID	1574A	R-1973-A

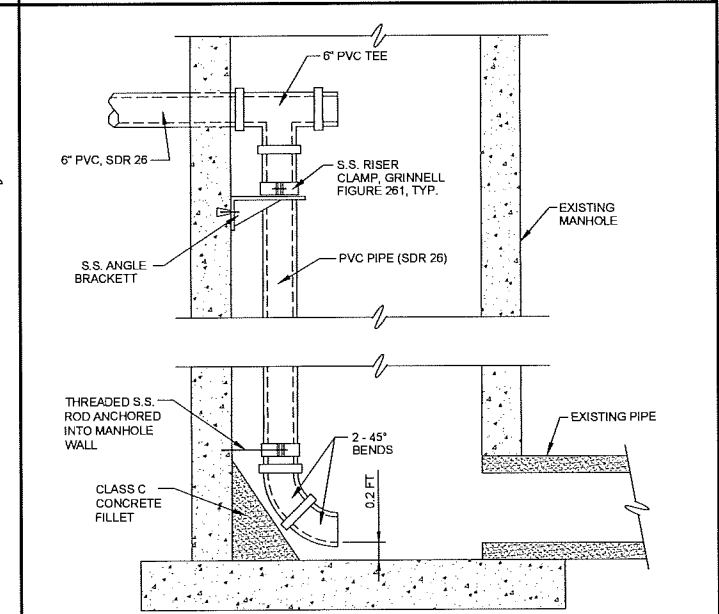
**STANDARD MANHOLE**



**TRENCH EXCAVATION & PIPE BEDDING**



**AIR RELIEF STRUCTURE**



**INTERIOR SEWER LATERAL DROP CONNECTION**



MARION HOWELL OCEOLA GENOA  
Sewer and Water Authority

STANDARD DETAILS

Scale: NONE  
Issued Date: JANUARY - 2014  
UPDATED MAY 2015  
UPDATED APRIL 2016  
UPDATED OCTOBER 2017

Wednesday, October 18, 2017 2:02:51 PM DRAWING: C:\Project\Janning\IER\12719200-12719-000\00\CAD\Sheet\Final\MHog.sld.DWG

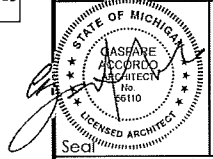
REAR DOCK AREA SUMMARY		
OCCUPANCY USE	ROOM NAME	SQUARE FOOTAGE
MERCHANDISE	SALES / VESTIBULE	12,108
	MEN'S ROOM	85
	WOMEN'S ROOM	83
	HALL	132
SUBTOTAL (MERCANTILE)		12,408
BUSINESS	OFFICE	252
	BREAK ROOM	305
SUBTOTAL (BUSINESS)		557
STORAGE / STOCK	BACKROOM	3,082
	COOLER	1,313
	FREEZER	734
SUBTOTAL (STORAGE / STOCK)		5,129
SUBTOTAL (OCCUPANCIES)		18,094
EXTERIOR INTERIOR WALLS / UNOCCUPIED SPACE		960
BUILDING SQUARE FOOTAGE		19,054
EXTERIOR CANOPY		733
TOTAL SQUARE FOOTAGE (INCLUDING CANOPY)		19,787

REAR DOCK OPERATIONS DATA		
ITEM	V7.0 PROTOTYPE	
LINEAR FOOTAGE OF BASE (PRODUCE INCLUDED)	845'-10"	77'-3" V.L.F.
ASSUMED PALLET STORAGE	62	
BUILDING DIMENSIONS	119'-4" x 153'-4"	
SALES FLOOR DIMENSIONS	74'-6" x 151'-1"	
LENGTH OF MULTIDECK	108	
COOLER MILK DOORS	4	
COOLER GENERAL DOORS	12	
FREEZER GENERAL DOORS	16	
SPOT MERCHANDISERS	8	
CART STORAGE	(119) MODEL 563W	

- NOTES:
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  - ALL DIMENSIONS TO WALLS ARE TO FACE OF STUD.
  - ALL SHELVING DIMENSIONS ARE TO FACE OF GONDOLA.
  - THIS FACILITY DOES NOT CONTAIN A BAKERY, A BUTCHER, A DELI OR FISH COUNTER.
  - ALL FOOD IS PREPACKAGED. THERE IS NO ON SITE FOOD PREPARATION.
  - GONDOLA LOCATIONS ARE MEASURED FROM THE FACE OF THE STAINLESS STEEL PRICE TAG MOLDING (SSPTM).

Issued:	Date:
A Issued for Client Review	11/08/17
B Issued for Client Review	11/20/17
C Issued for Client Review	12/01/17
D Issued for Client Review	12/04/17
E Issued for Client Review	12/06/17

Revisions:	Date:
1	
2	
3	
4	
5	
6	
7	
8	
9	



Seal PROJECT ARCHITECT/ENGINEER DATE

PROJECT LEAD DATE

PROJECT DESIGNER DATE

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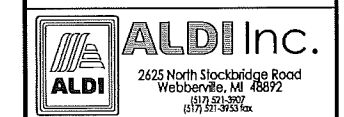
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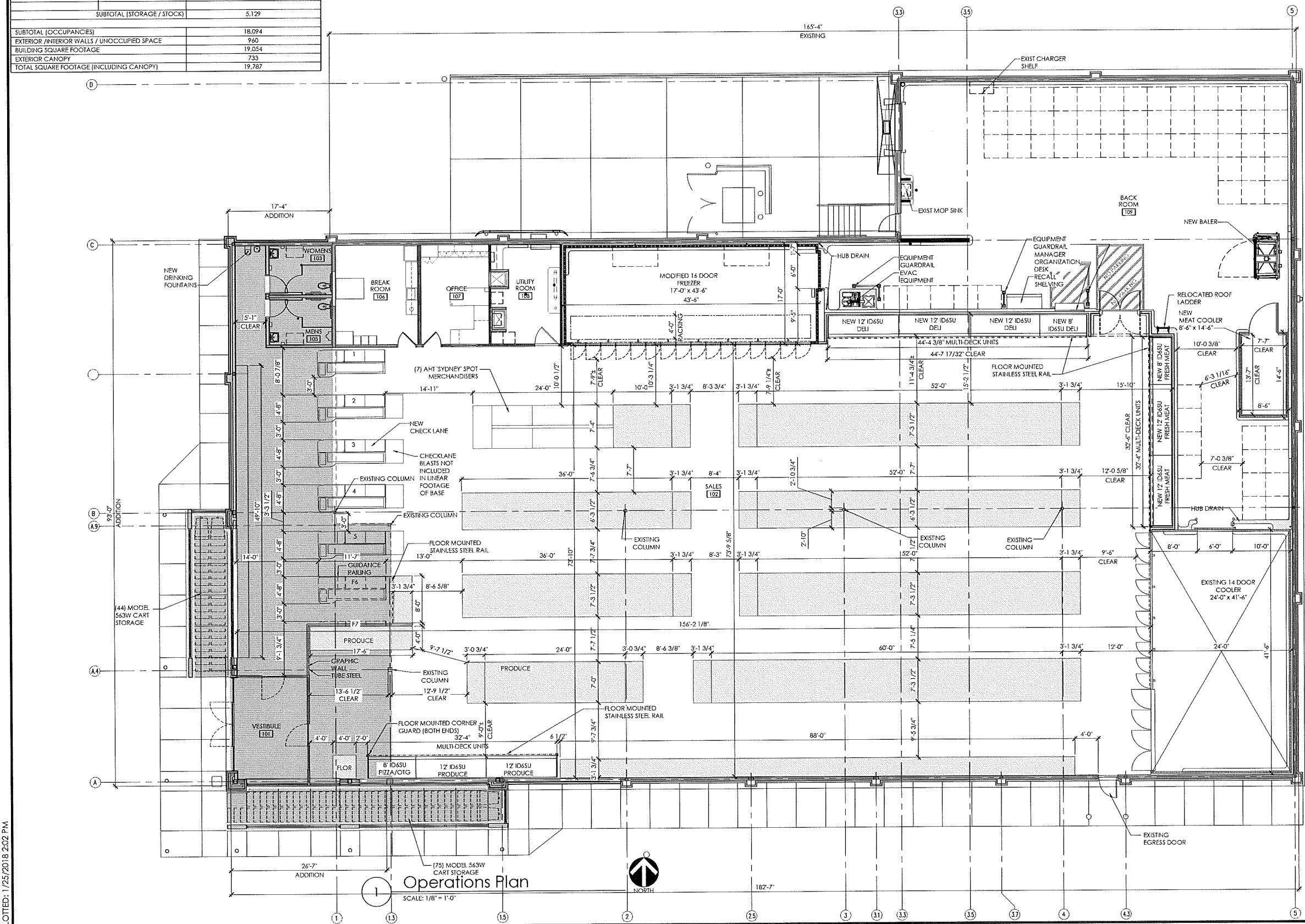


ALDI Inc. Store #: 51  
ALDI Howell, MI  
2250 East Grand River Ave  
Genoa Township, MI 48843  
Livingston County

Project Name & Location:  
**Operations Plan**

Drawing Name:  
Date: 09/05/17  
Type: V2.7  
Drawn By: JBS  
Scale: As Noted

Project No.  
17-0156A  
A-131  
Drawing No.



PLOTTED: 1/25/2018 2:02 PM

SIGNAGE			
DESCRIPTION	QUANTITY	SQ. FT. PER SIGN	TOTALS
TOWER SIGN	2	46.6	93.2
TOTAL SIGNAGE			93.2

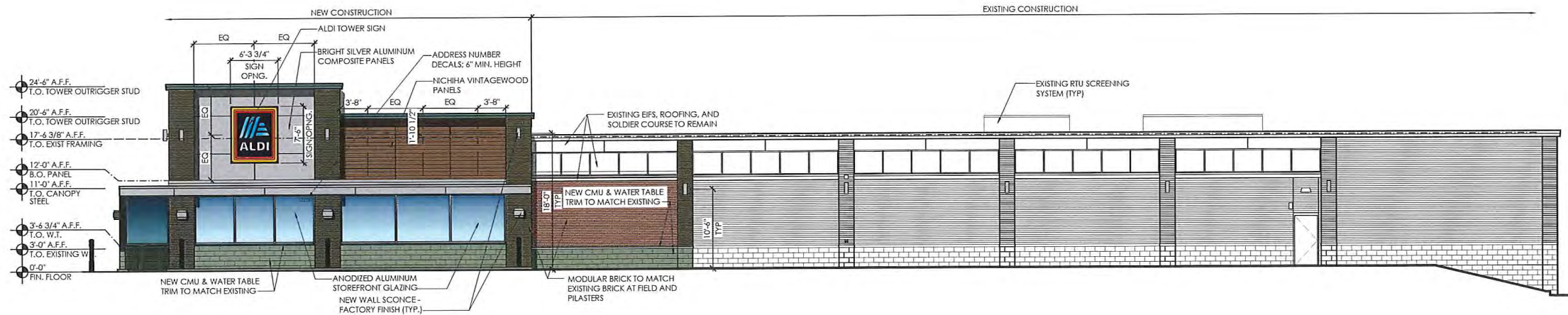
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Please note that the colors shown here are a graphical representation to show contrast in materials only. Due to the nature of electronic media, colors may vary depending on computer or printer used.

For review of actual colors, a material sample board should be created on a project specific basis.



2 Side Elevation - Chillson Rd  
SCALE: 1/8" = 1'-0"



1 Front Elevation - East Grand River Rd  
SCALE: 1/8" = 1'-0"

Issued:	Date:
A Issued for Client Review	11/20/17
B Issued for Client Review	12/01/17
C Issued for Client Review	12/04/17
D Issued for Client Review	12/06/17
E Issued per Township Comments	02/21/18

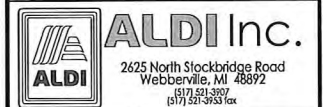
Revisions:	Date:
1	
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PROJECT ARCHITECT/ENGINEER	DATE
PROJECT LEAD	DATE
PROJECT DESIGNER	DATE

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**Gaspare Accordo,**  
AIA, NCARB  
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Victor, NY 14564  
585.742.2222  
585.924.4914 Fax



ALDI Inc. Store #: 51  
ALDI Howell, MI  
2250 East Grand River Ave  
Genoa Township, MI 48843  
Livingston County  
Project Name & Location:

Exterior Elevations Drawing Name:	
Date: 09/05/17	Project No. 17-0156A
Type: V2.7	
Drawn By: VLV	A-201
Scale: As Noted	Drawing No.